Open Space Element

Santa Barbara County Comprehensive Plan

Santa Barbara County Comprehensive Plan

Open Space Element

Adopted by
Santa Barbara County Board of Supervisors
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General Plan Advisory Committees

Carpinteria and Summerland

Montecito

Santa Barbara Area

Goleta

Santa Ynez Valley

Lompoc

Fifth District

Santa Barbara County Planning Department

Britt A. Johnson, Planning Director

Paul W. Wack, Assistant Planning Director

F. George Kammer, Chief, Comprehensive Planning Division

Harlan J. Damron, Planner

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Contents

INTRODUCTION 1

Approach to Open Space Planning 1

Land Use and Environmental Data System 5

Major Open Space Issues 6

OPEN SPACE FACTORS 11

Open Space for Public Health and Safety 11

Steep Slopes

Geologic and Soils Hazard Areas

Fire Hazard Areas

Flood Plains

Water Supply Areas

Airport Approach and Noise Impact Areas

Open Space for the Managed Production of Resources 13

Mineral Resources

Existing Agriculture

Potential Cultivated Agriculture

Open Space for Outdoor Recreation 13

Parks and Recreation, Recreation Trails, and Scenic Highway Corridors

Archaeological Sites

Historical Sites

Open Space for the Preservation of Natural Resources 14

Wetlands

Rare and Endangered Plant and Wildlife Communities

Shoreline and Dunes

Scenic Areas

Open Space Factors not Covered by Seismic Safety and Conservation Elements 15

Steep Slopes 15

Scenic Quality 19

Models for Scenic Quality 20
Travel Corridors 36
Urban Perimeters 39
Using the Scenic Values Models 40
Outdoor Recreation 44
Airport Hazard and Noise Impact 48

AREA ANALYSIS OF OPEN SPACE FACTORS 51
South Coast Shoreline, Rincon Point to El Capitan 54
South Coast 54
Santa Barbara Front 58
South Coast, El Capitan to Gaviota 59
Gaviota Pass-Nojoqui Falls 60
South Coast, West of Gaviota Pass 61
South Coast Shoreline, Gaviota to Point Conception 62
South Vandenberg Air Force Base 62
Lake Cachuma 62
Santa Ynez Valley 63
West Santa Ynez Uplands 64
Lompoc 65
Vandenberg Air Force Base and Environs 66
West Coast Shoreline 67
Guadalupe Dunes 67
Santa Maria-Orcutt 68
Los Alamos Valley 69
Sisquoc-Foxen Canyon 70
North Santa Ynez Uplands 70
Zaca Lake 70
Tepusquet Canyon 71
Cuyama Valley 71
Los Padres National Forest 72
Channel Islands 73

OPEN SPACE DESIGN CONCEPT 75

Procedure 76

Open Space for Public Health and Safety 78

Open Space for Managed Protection of Resources 81

Open Space for Outdoor Recreation 81

Open Space for Preservation of Natural Resources 82

Open Space Design Concept Maps 83

County-Wide 83

South Coast 96

Santa Ynez Valley 97

Lompoc Area 98

Santa Maria-Orcutt Area 98

Appendix A: Scenic Values County-Wide, Model Steps for Computer Programming 101

Appendix B: Scenic Values in Study Areas, Model Steps for Computer Programming 103

Appendix C: Bibliography 105

Maps:

Study Areas, Santa Barbara County 3

Predominant Slope 17

Scenic Values, Santa Barbara County 25
Scenic Values, South Coast-East 27
Scenic Values, South Coast-West 29
Scenic Values, Santa Ynez Valley Area 31
Scenic Values, Lompoc Area 33
Scenic Values, Santa Maria-Orcutt Area 35

Travel Corridors and Urban Perimeters Evaluation, Santa Barbara County 43

Open Space Analysis Areas, Santa Barbara County 52

Open Space Design Concept, Santa Barbara County 85
Open Space Design Concept, South Coast-East 87
Open Space Design Concept, South Coast-West 89
Open Space Design Concept, Santa Ynez Valley Area 91
Open Space Design Concept, Lompoc Area 93
Open Space Design Concept, Santa Maria-Orcutt Area 95

Introduction

The Open Space Element is one in a series of background reports leading to the formulation of the Santa Barbara County Comprehensive Plan and Implementation Program. The Seismic Safety and Safety Element and the Conservation Element provide a wealth of information concerning the natural features and environment of the County. Together, the volumes described in detail seismic and geologic constraints on development; the quality and quantity of the County's water resources, the impressive diversity of biota and the importance of protecting this animal and plant life from extinction; hazards to life and and property resulting from potential fires and floods; mineral and agricultural land resources; and the archaeologic and historic heritage of the County.

APPROACH TO OPEN SPACE PLANNING

This report is intended to satisfy a State Planning Law requirement calling for an Open Space Element in all county and city general plans. Analysis of data from the Seismic Safety and Conservation Elements, as well as additional in-put, was used to delineate the types of open space County-wide. Below are listed the categories of Open Space as prescribed in Section 65560 of the California Government Code:

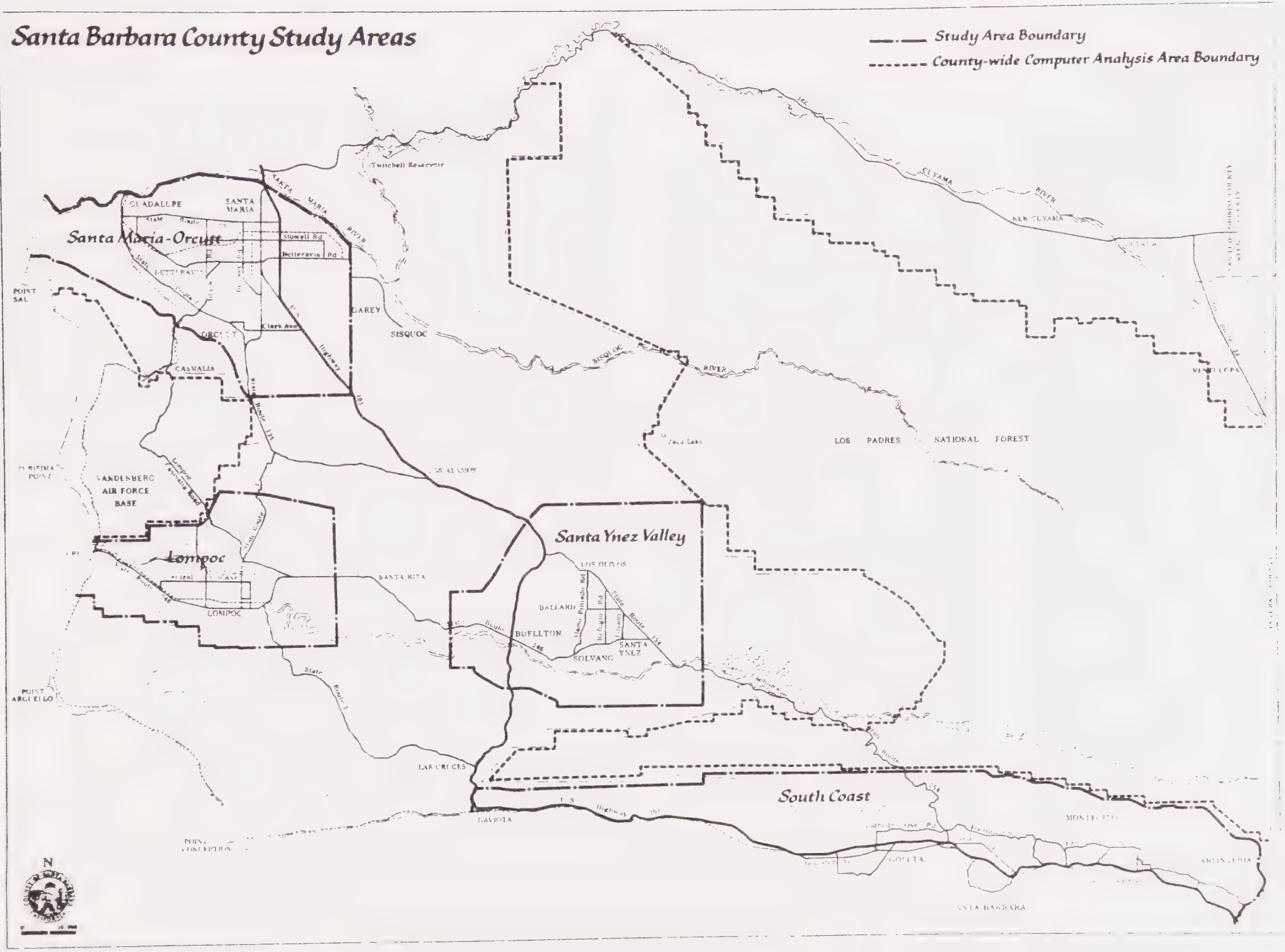
- Open space for public health and safety.
- Open space for the managed production of resources.
- Open space for outdoor recreation.
- Open space for the preservation of natural resources.

The order in which these four categories are listed is not the same as contained in the Planning Law. They have been reordered here to indicate relative priorities. While all four are critical to the future of the County and its residents, they differ in their degree of importance. As crucial as it is to assure the preservation of delicate ecosystems, it is even more important to protect residents against danger to life and property.

A fifth open space category - open space to shape or limit urban expansion - will appear in the Land Use Element. The purposes of this kind of open space are to prevent the monotony of seemingly endless urban sprawl that characterizes so much of Los Angeles and Orange Counties, and to make open space visible and accessible within a reasonable distance of all urban development. Much of the open space needed to shape and limit urban expansion may be provided from the stock of other four categories depicted by the Open Space Design Concept Maps.

The significance of open space preservation to the people of California is stated in Section 65561 of the Government Code:

> "That the preservation of open space land, as defined in this article, is necessary not only for the maintenance of the economy of the State, but also for the assurance of the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, for recreation, and for the use of natural resources.
>
> That discouraging premature and unnecessary conversion of open space land to urban uses is a matter of public interest and will be of benefit to urban dwellers because it will discourage noncontiguous development patterns which unnecessarily increase the costs of community services to community residents.
>
> That the anticipated increase in the population of the State demands that cities, counties, and the State at the earliest possible date make definite plans for the preservation of valuable open space land and take positive action to carry out such plans by the adoption and strict administration of laws, ordinances, rules, and regulations as authorized by this chapter or by other appropriate methods.
>
> That in order to assure that the interests of all its people are met in the orderly growth and development of the State and the preservation and conservation of its resources, it is necessary to provide for the development by the State, regional agencies, counties, and cities, including charter cities, of statewide coordinated plans for the conservation and preservation of open space lands.
>
> That for these reasons this article is necessary for the promotion of the general welfare and for the protection of public interest in open space land."


Santa Barbara County Study Areas
Study Area Boundary
County-wide Computer Analysis Area Boundary
Santa Maria-Orcutt
Lompoc
Santa Ynez Valley
South Coast
SANTA MARIA
GUADALUPE
ORCUTT
CASMALIA
GAREY
SISQUOC
SISQUOC RIVER
SANTA MARIA RIVER
CLYMA RIVER
NEW CUYAMA
Twitchell Reservoir
LOS PADRES NATIONAL FOREST
SANDENBERG AIR FORCE BASE
POINT SAL
POINT ARGUELLO
POINT CONCEPTION
LOMPOC
SANTA RITA
LOS OLIVOS
BALLARD
BUELLTON
SOLVANG
SANTA YNEZ
LOS ALAMOS
LOS PRIETOS
LAS CRUCES
GAVIOTA
GOLETA
SANTA BARBARA
MONTECITO
ARLINGTON
Stowell Rd
Betteravia Rd
Clark Ave
Lompoc-Casmalia Road
Refugio Rd
Zaca Lake
N

One of the principal purposes of the Open Space Element is to distinguish among lands suitable for outdoor recreation, those suitable for agriculture and mineral resource extraction, and those which should remain in open space for other reasons. Open space preservation has traditionally been associated with recreation and scenic values, but the classifications prescribed by the State Planning Law clearly indicate the equal or greater importance of other reasons for open space preservation.

While the text of this report sets forth all the reasons why designated lands should remain in open space, the Open Space Design Concept maps show only one designation for each area - the applicable designation to which we have accorded the highest priority. For example, if an area is subject to severe geologic problems but also is the habitat of an endangered species, it will appear as open space for public health and safety on the maps, rather than as open space for the preservation of natural resources. If a particular open space area serves more than one purpose, it was not given a higher priority for that reason. By way of clarification, it should be stated that the term "priority" as used here is not necessarily synonymous with "urgency." For instance, preservation of small breeding areas of a rapidly diminishing animal species may require swift action to prevent its extinction, even though this open space category (open space for the preservation of natural resources) has the lowest priority among the four types.

Unlike most of the open space elements published elsewhere, the Santa Barbara County Open Space Element is not a plan illustrated by a series of maps designating which lands are to remain open and which can be considered for urbanization. Rather, it presents a synthesis of data on environmental assets worth preserving and constraints on development which, taken together, justify retaining particular lands in open space, entirely or in part. Stated another way, the lands designated by the Open Space Design Concept have open space potential. However, this does not imply that the public interest would best be served by preventing development of all lands shown in the various open space categories. Depending on their hazard potential, fragility, location, and other pertinent factors, the open space designation may signify any one of three situations:

- All urbanization should be prohibited.
- Urbanization should be prohibited except in a relatively few special instances.
- Urbanization should be permitted only in appropriate instances, subject to plan review and the imposition of specific conditions to protect against hazards and to preserve the integrity of the land and environment.

The Open Space Element does not distinguish among these three classes. Guidelines for differentiating among them, and appropriate procedures to be applied in each situation will be presented in the Environmental Resource Management Element (ERME) and the Land Use Element.

The Open Space Design Concept also does not take account of future land needs for urban expansion. During the preparation of the land use plans a strong effort was made to protect open spaces worthy of preservation from urbanization.

The primary purpose of the Open Space Element is to inform the County and its residents which lands should be considered for open space preservation and the reasons that lie behind the proposals.

Final recommendations on translating the open space preservation proposals into action are covered in the Environmental Resource Management Element (ERME) and Land Use Element.

Before a decision is made on any particular parcel of land, the decision-maker should refer first to the applicable Open Space Design Concept map and to the Area Analysis of Open Space Factors chapter in this report. This information should be supplemented by referring to pertinent maps and descriptive text in the Seismic Safety and Safety and Conservation Elements, and to more complete original source maps which are on file in the County Planning Department.

LAND USE AND ENVIRONMENTAL DATA SYSTEM

A land use and environmental data system was developed for the Comprehensive Plan which combines several methods for data collection, storage, retrieval, and analysis. All available land use and environmental information was mapped on County-wide and study area reproducible base maps. Much of the data was coded and stored in a computer. Exceptions were data for rural areas not requiring refined computer analysis. The County-wide area selected for computer analysis is shown on the Santa Barbara County Study Areas map. The computer produced maps for this area at a scale of 1 inch equals 8,000 feet. The maps were divided into more than 10,000 grid cells, each measuring 2,000 feet on a side, making the cell equivalent to 91.82 acres. Where urban expansion pressure could be significant between now and 1990, a more refined level of analysis was undertaken. The South Coast, Santa Ynez Valley, Lompoc, and Santa Maria-Orcutt areas were selected for detailed study. The computerized maps are at a scale of 1 inch equals 2,000 feet, and each grid cell (of a total of about 35,000) measures 500 feet on a side and is equivalent to 5.74 acres. The boundaries of the four study areas also are indicated on the Santa Barbara County Study Areas map, but data for portions of the study areas were not computerized at the refined scale.

Data for lands excluded from the computer-produced maps of the study areas are included on the County-wide computer maps at the lesser scale. However, the original source maps show this information in greater detail at the 2,000 foot scale. In large areas of the County under federal ownership and on the Channel Islands, less precise information (except for recreation potential) is needed for comprehensive land use planning. Consequently, major portions of Los Padres National Forest, portions of Vandenberg Air Force Base, and the Channel Islands were not included in the computerized data base. Where pertinent, environmental data for these areas are available on manually prepared maps at the 8,000 foot scale.

Utilizing the data stored in the computer, analytical models were employed to determine the suitability of land for various purposes and to determine constraints on its use. The models perform this kind of analysis by synthesizing appropriate types of environmental and land use data. Several models (soil expansiveness, soil creep, geologic problems index) were used in the Seismic Safety and Safety Element. In this report, the results of model analyses of scenic values and environmental constraints on urban development are presented. A model analysis of suitability of land for recreation will be included in the Parks and Recreation chapter of the Land Use Element.

Three types of mapping techniques are employed in this report: (1) In cases where County-wide computerized data were utilized, County-wide maps show data for the area within the computer analysis boundary, as shown on the Santa Barbara County Study Areas map; (2) In cases where more detailed computerized data for the study areas were utilized, four maps, one for each area, show data for the portion of the area within the computer analysis boundary for each; (3) The Open Space Design Concept maps depict data County-wide and for each of the four study areas separately. These maps were prepared manually. The Open Space Design Concept maps cover the entire County and make use of the original source data for Vandenberg Air Force Base and the National Forest.

MAJOR OPEN SPACE ISSUES

The Open Space Element raises a number of policy issues. These issues are summarized here in order that the decision-makers can consider the contents of this report in light of the choices they will be called upon to make. Final resolution of these issues will not be made until the full range of alternatives is placed be before the decision-makers.

Conflict Between Urban Growth and Preservation/Extension of Agriculture - Agriculture, the County's largest industry, constantly is threatened by development pressures, particularly in areas on the urban fringes. Most vulnerable are farm operations that have low or declining profit margins, especially when this results from the land being assessed for its development potential rather than its agricultural yield.

Zoning requirements are one of the factors considered in assessing agricultural (and other) lands, and if the result is to make them more marketable for urban development, taxes will tend to increase and maintaining financially viable farming operations will become more difficult.

Even the 5, 10, and 20 acre minimum site area regulations, which permit "ranchette" subdivisions where residents typically keep horses, assume that such land use may be more suitable than commercial agriculture. Continuation of the present trend of subdividing large ranches into lesser sites inevitably will raise surrounding land values and taxes to levels that eventually will make it difficult to preserve agriculture in the County.

Once the change from larger agricultural holdings to smaller acreages occurs, the County can anticipate applications for lot-splits and re-subdivisions into smaller sites. Thus, an unanticipated piecemeal pattern of scattered development could commence which ultimately would spell the doom of commercial agriculture in the areas affected. To a considerable extent, this chain of events already has taken place on the outer fringes of the Los Angeles, San Diego, and San Francisco metropolitan regions. Scattered urban development is likely to impose greater burdens on all taxpayers because of the demonstrably higher costs of maintaining streets, operating utilities, and providing urban services to outlying development.

Conflict Between Agricultural Expansion and the Cost and Availability of Water - The Open Space Design Concept indicates significant amounts of land which have potential for expansion of agriculture. However, this will not be a viable possibility, and even some presently irrigated agricultural lands may have to be taken out of production, if an adequate supply of suitably priced water for agricultural use is not available. One potential source of water to serve the County is the State Water Project. However, the availability of this water depends on building the Coastal Aqueduct, an expensive project that will raise the cost of water significantly above current levels.

While present water rates generally favor agricultural users, the rate structure could be adjusted to their greater advantage if the County Water Agency and the local Water Districts decided that preservation and expansion of agriculture was in the general public interest.
However, many residents believe that the County should live within its present means, insofar as water supply is concerned. At some time in the future, reclamation or other techniques may solve this problem, but there is no certainty that this will occur.

Conflict Between Urban Growth and Environmental Quality - The term "environmental quality" will be used here to refer to clean air and water, unscarred land, and preservation of scenic resources. Over time, the goals of clean air and water may be attained by regulations enacted and enforced at higher than local governmental levels. Land scarring can be prevented by local control of earth-moving. Scenic quality is more difficult to preserve except where lands with such values also are subject to health and safety hazards which justify limiting severely their development.

Many of the County's scenic areas are extremely vulnerable to despoliation, and also are subject to strong demand for development. The coastal bluffs are a prime example. Sufficient funds to preserve any substantial amount of the County's scenic lands by purchase are not available now, and are not likely to become available in the foreseeable future. Certain compromises are inevitable. A system of determining priorities for preservation would make it possible to determine objectively how available resources should be spent. Methods short of purchase to preserve open space lands should be considered.

Conflict Between the Protection of Ecological Systems and Urban Development or Intensive Recreation - The Conservation Element presented the major reasons for preserving the diversity of natural communities and biota in the County. Almost any change in land use, including conversion to agriculture, can eradicate habitats and exterminate species. However, of the 275,000 acres (30 per cent of the County's area) recommended by the Environmental Biologists (see Conservation Element)for preservation, most is remote from urban development and a high percentage is subject to constraints on development for health and safety reasons.

The most typical means of preserving scenic lands is by purchasing them for open space or park use, but many natural habitats, including those of greatest scientific interest, are extremely fragile and are not suitable for any but the lightest recreational use. Such lands cannot be saved by using them as parks unless public access and recreation activities on them can be severely restricted. Fortunately, the areas recommended in the Conservation

Element to be limited to scientific study comprise only 5,100 acres, in addition to lands in Vandenberg Air Force Base and Los Padres National Forest and on the Channel Islands. Another 100,000 acres were classified,as suitable for every light recreation (observation of plants and animals, photography, sketching, and similar activities), and 143,000 acres would be tolerant to light recreational activities including hiking, backpack camping, line fishing, bicycling, and educational programs not involving collecting of specimens.

Conflicts Between Trails Systems and Adjacent Private Lands - While off-road bicycle paths and pedestrian and equestrian trails are essential elements of a recreation system, it must be recognized that there inevitably will be conflicts between these kinds of facilities and certain adjacent land uses unless the recreational rights of way have generous widths, are fenced, and in some cases are screened. Where paths and trails lie adjacent to residential properties, particularly along rear lot lines, privacy may be invaded and security may be threatened. In the case of orchards, vineyards, and similar crop lands, there are dangers of pilferage and transmission of plant diseases. For example, avocado root rot can be spread by humans or animals passing through avocado groves. All of these factors should be taken into account, with respect both to present and future residential and agricultural lands, in selecting bicycle path and pedestrian or equestrain trail locations.

Open Space Factors

The four "open space" categories described in State planning regulations were utilized in preparing the Open Space Design Concept maps of this element. Those categories are generalized classifications, and there are actually eighteen distinct but related reasons or factors for designating land in open space under the analysis used here. The factors are listed below under the appropriate category of open space.

Many of the factors and their constraining effects on land use and development are discussed in detail in the Seismic Safety Element and the Conservation Element, as noted. Four other important open space factors that were not covered in either those two elements are discussed in the remaining sections of this chapter. These are steep slopes, scenic quality, outdoor recreation, and airport hazards and impacts.

1. Open Space for Public Health and Safety

Steep Slopes - Much of the County is mountainous and construction in these areas poses real hazards to inhabitants if not strictly regulated or, in cases of excessive slope, prohibited. Dangers from landslides, erosion, and fire are among the major factors to be considered.

Geologic and Soils Hazards Areas - Although much of the County justifiably can be considered developable from this standpoint, there are areas where development should be prohibited or regulated to protect life and property. Of special importance are areas on or adjacent to active or historically active earthquake faults, and areas of known or potential landslides. (See Seismic Safety Element.)

Fire Hazard Areas - Much of the County is subject to extreme fire danger during the hot, dry summer months. Not only are residents of these areas endangered, but also the fire hazard poses a threat to other nearby communities. If hazardous areas were to remain undeveloped and access were prohibited during the critical fire season, the number of fires would decrease. The County and the Forest Service are ill-equipped to fight fires in some of the remote and sparsely developed areas.

Fire hazard also has a close relationship to flood potential. Burning of watershed areas reduces the vegetative cover, and heavy rains result in greater erosion and run-off. Run-off can carry large quantities of fire debris into stream channels, thus impairing the free flow of water and causing the streams to overflow their banks. Because of this interrelationship, decisions on flood control improvements should not be made independently of decisions on fire prevention and control programs, and decisions on land use in areas of high and extreme fire hazard. If the probability of large fires burning extensive upland areas were significantly reduced, Santa Barbara County's flood problems would become far less critical. (See Seismic Safety and Safety Element.)

Flood Plains - In recent years, Santa Barbara County floods have caused substantial property damage, and even loss of life. The Conservation Element identifies known flood plains where development should be prohibited, and other areas where additional data on flood hazard should be required before development is permitted. In certain less hazardous flood-prone areas, special construction techniques should be prescribed. (See Conservation Element.)

Water Supply Areas - This category includes stream channels recharging groundwater, other groundwater recharge areas, lands surrounding present and proposed reservoirs, and other watersheds. Prohibition and/or regulation of development in these areas is critical to maintaining the quantity and quality of the County's water supply and to protecting the health of the residents. (See Conservation Element.)

Airport Approach and Noise Impact Areas - People living or working in buildings located in the approach or takeoff path of an airport are exposed to safety hazards. The growing number of privately owned small planes has increased this danger substantially. If airport approach and take-off zones were kept free of development, this kind of hazard would be reduced or eliminated.

Noise generated by aircraft has become an increasingly significant factor of the quality of urban life. This type of noise has been demonstrated to affect human health adversely. While the Open Space Element does not deal with the impact of aircraft noise on existing development, the future use of vacant lands near airports is an open space issue. Although development of quieter aircraft engines will alleviate the problem to some degree, increased volumes of air traffic probably will negate the effects of engineering advances. The most direct solution for the problem is to prohibit residential buildings, hospitals, schools, and other places of public assembly within areas seriously impacted by airport noise.

2. Open Space for the Managed Production of Resources

Mineral Resources - The extraction of mineral resources is important to the national, state, and local economies. For example, the diatomite quarries in the Lompoc area produce almost all the diatomite mined in the United States. The County should permit present operations and future exploration for necessary minerals provided that adverse environmental impacts are kept at acceptable levels. Air, water, and ground pollution, as well as unsightly scarring of the landscape, are among the factors that should be the subjects of concern. Prior to permitting any new mining operation, plans should be required for rehabilitation and reuse of the site. (See Conservation Element.)

Existing Agriculture - Because of its marked variations in climate, Santa Barbara County produces a notable variety of crops, ranging from citrus and avocados on the South Coast, to flower seeds at Lompoc, and truck crops and wine grapes in the Santa Maria Valley. For certain crops, particularly flower seeds, broccoli, lettuce, avocados, and strawberries, the County is a major supplier statewide and even nationwide. In addition to being a vital element in the County's economy, agriculture contributes significantly to its pastoral scenic quality. (See Conservation Element.)

Potential Cultivated Agriculture - There are portions of the County not now devoted to cultivated agriculture that have potential for such use because of favorable combinations of climate, soils, slope, and existing or potential water supply. The importance of agriculture suggests the advisability of reserving such lands for agricultural expansion rather than putting them to other uses, particularly where lands suitable for urban expansion are available elsewhere. (See Conservation Element.)

3. Open Space for Outdoor Recreation

Parks and Recreation, Recreation Trails, and Scenic Highway Corridors - The importance of these types of open spaces to Santa Barbara County can hardly be overstated. Indeed, they will be the subject of a separate report, the Recreation Element. The relationships of these kinds of outdoor recreation areas to the other Open Space categories covered by this report will be discussed in a later section of this chapter.

Archaeological Sites - Archaeological sites are a non-renewable resource and, according to the Conservation Element, "Archaeologists regard the remaining sites as the non-living equivalent of an endangered species." In Santa Barbara County, archaeological resources include shell middens, rockshelters, lithic scatters, caves, pictographs, and petroglyphs, each of which represents separate and distinct activities of the aboriginal inhabitants. Unfortunately, many sites have been destroyed and, unless protective actions are

taken, existing sites are also in jeopardy, either from the depredation by vandals and souvenir collectors or the unintentionally destructive acts of developers.

As the State Planning Law is written, areas of "outstanding cultural value," which logically include archaeological sites, are classified as Open Space for Outdoor Recreation. This classification is somewhat contradictory in that archaeological sites can only be preserved by preventing public access, except in the few instances where the artifacts are displayed in outdoor museums. It would be more logical to include archaeological sites in the "Open Space for Preservation of Natural Resources" category, were it not for the fact that their treasures are man-made. Such sites should be administered much like natural preserves where access is permitted for scientific study only.

Because of the necessity of keeping the information unavailable to the public, the archaeological areas resource map prepared for the Conservation Element by the team of archaeologists from the University of California, Santa Barbara will not be published. However, all of the sites that are found on non-urban land are included on the Open Space Design Concept maps, in one Open Space category or another, without identifying the site locations. (See Conservation Element.)

Historic Sites - Similar to archaeological sites, historic sites provide cultural links with the past, and are classified by the Planning Act as Open Space for Outdoor Recreation. The County's recognized major historic sites are listed and mapped in the Conservation Element report. However, most of the sites are too small to be visible on the Open Space Design Concept maps. Consequently, only the larger historic sites (La Purisima Mission, Mission Santa Ines, Gaviota Pass, Gaviota Landing, and Hurricane Deck) are included in the Open Space Element. (See Conservation Element.)

4. Open Space for the Preservation of Natural Resources

Wetlands - The estuaries of the California coast are rare and rapidly vanishing natural ecosystems. The Goleta and Carpinteria sloughs are two of perhaps ten estuaries on the entire coast that still are in moderately good biological health. An estuary is a tidally affected marshland that receives nutrients from fresh water runoff, which is essential for the continued productivity of the delicate habitats. The County's wetlands serve as resting places for migratory water fowl using the Pacific Flyway, and some rare and endangered species of birds are known to be residents. Some of the plant species found in the sloughs also have been classified as rare or endangered. For these reasons, wetlands rank near the top of the list of natural resource areas worthy of preservation. (See Conservation Element.)

Rare and Endangered Plant and Wildlife Communities - The County contains a broad diversity of natural habitats for a variety of plant and animal species, a number of which are classified as rare or endangered. The diversity of habitats is due primarily to the climatic and topographic variations with the County. Some of the natural communities represent the southernmost reaches in California where the species are found. (See Conservation Element.)

Shoreline and Dunes - In addition to supporting a great diversity of marine life, the County's shoreline is becoming an endangered habitat as urban development and intensive recreation activities continue to encroach on the coast. Particularly delicate, as well as unique, are the coastal dunes where off-road vehicles and other human activities are rapidly destroying the native plant and animal communities. The Conservation Element proposes that particularly valuable coastal areas be designated as natural preserves, with public access and activities limited to scientific study and very light recreation. (See Conservation Element.)

Scenic Areas - The County's scenic beauty is one of the principal factors that has attracted its residents and visitors. Without doubt, high quality scenic areas should be preserved, both to retain the present quality of life and to ensure the future of the tourist sector of the economy.

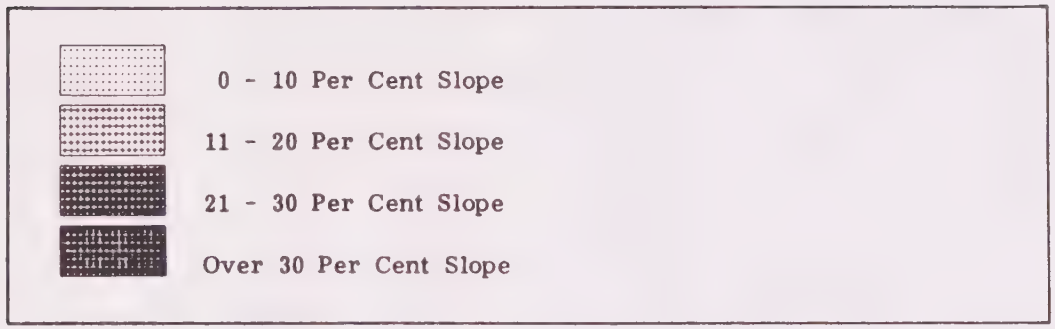
OPEN SPACE FACTORS NOT COVERED BY SEISMIC SAFETY AND CONSERVATION ELEMENTS

Four important Open Space factors not covered by the Seismic Safety Element or the Conservation Element are discussed in this section: steep slopes, scenic quality, outdoor recreation, and airport hazards and noise impact.

Steep Slopes

Although not discussed separately in the Seismic Safety Element, steep slopes are a major contributing factor to geologic constraints on development, notably erosion and landslides. In areas with 20 percent or greater slope, these two conditions frequently are prevalent. The stability of slopes is a complex function of their height and steepness, the inherent strength of the material underlying the slopes, and the presence and orientation of geologic planes of weakness such as bedding, joints, and faults. Surface and subsurface moisture conditions, weathering, and their effects over time also are important factors affecting slope stability. The Seismic Safety and Safety Element presents a County-wide map and four study area maps depicting slope stability and landslides.

Santa Barbara County
Predominant Slope




GUADALUPE
SANTA MARIA
SANTA MARIA RIVER
BETTERAVIA
POINT SAL
GARET
SISQUOC
RIVER
CUYAMA
NEW CUYAMA
CUYAMA
SAN LUIS OBISPO COUNTY
KERN
VENTURA COUNTY
Zaca Lake
LOS PADRES NATIONAL FOREST
PURISIMA POINT
VANDENBERG AIR FORCE BASE
LOMPOC
SURF
LOS ALAMOS
SANTA YNEZ
SOLVANG
POINT ARGUELLO
State Route 1
GAVIOTA
POINT CONCEPTION
GOLETA
SUMMERLAND
SANTA BARBARA
N
PREDOMINANT SLOPE

Even if landslide and slope stability problems are solved by proper design, other problems can ensue, both in known hazardous areas and in areas thought to be safe. For example, grading, vegetation clearing, and drainage alterations done prior to road and building construction can transform stable slopes into relatively unstable ones. The deep roots of trees and shrubs bind slope deposits and help to prevent sliding. Consequently, site clearing can create slide problems. Removal of natural vegetation also is a prime factor in erosion of hillsides. Residents of developed hillside areas contribute to slope instability by concentrating water in septic systems, blocking natural drainage channels, garden watering, and concentrating runoff from impervious surfaces, such as roads, driveways, patios, and rooftops. Runoff causes sheet wash and gullying of drainage channels, which can result in sedimentation of stream beds and downstream flooding.

As shown on the maps in the Seismic Safety and Safety Element, areas with steep slopes also are the areas subject to the most extreme fire hazards. Topography and density/type of vegetation are two of the three factors that determine the degree of fire hazard in any given area. The third is weather. Topography is a critical factor not only because fire spreads more rapidly on steeper slopes, but also because fire control is much more difficult in rugged terrain. Development in fire-prone areas is a critical issue because more than 90 percent of wild-land fires are caused by man, many of them through the actions of residents of these areas. Even a spark from a chimney can be the cause of a major wildland fire. During critical fire weather, a small structure fire can spread quickly to adjacent brush and timer lands.

Another factor that should be considered in making decisions on development on steep slopes is that it usually results in significant scarring of the land. Massive grading generally is necessary both for access and for siting the structure itself, and typically includes long road extensions to reach buildable sites, driveways to houses and pads to accommodate the house, garage, guest parking, garden, swimming pool, and other improvements. These graded areas usually are extensive because hillside homes tend to be large and costly, and generally are located on large sites with one house far from the next. The necessary earthmoving, if not carefully done, can mar the scenic beauty of the area and can contribute to run-off, erosion, and flood problems.

Building on steep slopes involves planning issues beyond those of public health and safety. In the County, particularly on the South Coast, the foothills and mountains provide natural settings for urban areas which serve an important scenic function as well as forming a barrier against urban sprawl. There is a significant lesson to be learned by comparing the South Coast's beautiful wooded backdrop with the many Los Angeles mountainsides that have been stripped and deformed to accommodate mass residential construction. The cost of maintaining roads and providing public services to outlying hillside developments is known to be significantly higher than in more compact close-in subdivisions.

Scenic Quality

Santa Barbara County is renowned world-wide for the scenic beauty of its seascapes and mountains. The coastal shelves, nestled between ocean and mountains, and the scenic inland valleys provide natural settings that are difficult to rival. The large expanses of cultivated farmlands and grazing lands on the valley floors and gently rolling hillsides provide a green or golden pastoral setting, depending on the season, that delights the eye of resident and traveller.

Unfortunately, as the cities have grown, their expansion has consumed one scenic open area after another, particularly on lands close to the urban centers. Irreplaceable natural areas and sites with unique recreational potential are beginning to disappear, most notably along the coastal bluffs. While not all of the coast can or ought to be designated open space, there should be a reasonable balance between lands planned for private development and those remaining available for visual or actual public access and enjoyment. Surely, lands with unique natural assets should be placed in the latter category; other sites may be more debatable.

Open space lands with outstanding scenic qualities often can be preserved by prohibiting construction because other constraints on development, such as flooding or steep slopes, are present. Where no such combination of constraints exists, acquisition of the land generally will be necessary, particularly if it is intended to be used for public recreation. However, in many situations, using either the design review or the subdivision approval procedure, portions of a site may be permitted to be developed, on condition that the most scenic areas remain as undeveloped open space.

The County is large (2,774 square miles) and, of course, is mainly undeveloped. Forty-five percent of this area is in public ownerships and is likely to remain primarily in open space. To survey all of these lands in order to differentiate among the scenic qualities of various areas would take years to accomplish and would add little to the Comprehensive Plan. Furthermore, scenic value should not be gauged only in terms of an area's intrinsic beauty (a subjective and ill-defined criterion at best), but also in terms of the number of people who see the area. Identification and rating of scenic sites in the Sierra Madre Mountains, for instance, would be of relatively little worth, because so few people will see these areas and they are not in danger of being developed. Sites visible from highways and close to urban centers are seen by tens of thousands daily, and consequently are worthy of detailed study for scenic values.

Models for Scenic Values

Documentation of the County's scenic areas is a difficult process, primarily because it requires the evaluators to make a number of subjective decisions. Typically, the most reliable method of recording scenic areas is by on-site inspection in conjunction with using photography, geographic maps, and other data. Because of the size of the County, the vast areas not accessible by vehicle, and the amount of time it would take to survey the entire County, site inspections made for the scenic quality studies were limited to those lands that lie within the major travel corridors and those lands lying at the edges of urban areas. For the remainder of the County, scenic areas were identified by utilizing previously recorded data on subjects which typically are associated with high levels of scenic quality.

For example, water resources (reservoirs, rivers, streams, watersheds) were mapped for the Conservation Element. Even without on-site inspection, it generally is valid to assume that nearly all such areas have scenic qualities that set them apart from others. The abundance and variety of types of vegetation usually found along the banks and shores of water areas, the wildlife dependent upon this vegetation as well as upon the water itself for habitat and sustenance, the changes in topography often found on either side of a waterway, the visual interest created by the juxtaposition of water and land forms and the resulting differences in texture, and the essential quality of water itself as a moving element contrasting with the static land masses that surround it, are among the reasons why water resources can be said usually to be scenic.

Some of the other factors that were mapped for non-visual purposes also have scenic implications. Steep slopes already have been mentioned. Elevation is another such factor; the higher the elevation of a site, the greater the probability of scenic vistas. Certain types of vegetation identified by the Environmental Biologists Team may have scenic value, depending on the species, quantity, and location. Such non-visual data may suggest that particular areas should be preserved in open space because of their scenic quality, but each situation should be verified by on-site inspection before a final decision is made. The computer may not have recorded a detail as small as an oak grove in a predominant grassland area. At the other end of the scale, the fact that an entire hillside has been badly scarred may not be revealed by the slope map.

To aid in the scenic evaluation, Royston, Hanamoto, Beck & Abey created two computer models, one for the County and the other for each of the four urban study areas. These models determined the relative scenic values on the basis of previously published data that have scenic implications. Each data item was numerically weighted, and in combination they indicated a degree of scenic quality for one

area (or grid cell) compared with another. To supplement this information, the evaluators then travelled the major County and urban study area roads (travel corridors), and they also visually surveyed the open spaces surrounding each urban area. For the travel corridors and urban perimeters, documentation was limited to what could be seen in the foreground - 2,000 feet on either side of a road or around an urban area for the County-wide model (a distance equal to the width of one 92-acre grid cell), and 1,500 feet for the urban study area model (equal to the width of three 5.74-acre grid cells). This distance, roughly a quarter mile, is the most important in the view of a person travelling through the area, or of a resident, because it usually is the portion of the vista most easily seen and remembered.

The County-wide Model - The objective of this analytical model was to identify and rank areas of scenic value. The results, as mapped for 92-acre grid cells by the computer, can be used to determine what areas should be preserved in open space because of their visual quality, or should be subject to design review regulations in order to insure that they are not despoiled by adverse development. By superimposing the results of the surveys of the travel corridors and the urban perimeters upon the computer map, these areas can be analyzed for scenic value in greater detail.

The County-wide model used previously mapped data that have visual implications, including Protection of Water Resources (see Conservation Element), Environmental Biology by Type (map on file in the County Planning Department), and Predominant Slope.

The Protection of Water Resources map identifies the locations of lakes, streams, and rivers. These elements are usually the dominant feature of a particular scene and constitute the visual focal point of that area. The surface and edges of the water body create diversity in detail, scale, and texture. The Environmental Biology by Type maps suggest the height, mass, color, texture, and density of the vegetative cover of each area. The difficulty of replacing each plant community is another important factor which is implied by this mapping, and which adds to preservation value. For example a mature oak woodland takes many more years and special conditions for replacement than does a chaparral brushland. The Predominant Slope map can be used to determine if an area is enclosed or has a visual backdrop. The distance of such a visual edge from a particular vantage point suggests the scale of the viewed area.

Numerical weights were assigned to each of the variable's sub-classifications, favoring those conditions that imply the highest scenic quality. An example of this type of scoring is the assignment of a higher numerical value to lands with 30 percent or greater slope than to lands with less steep slopes. The importance of one variable compared with another also was taken into account by assigning a second

set of weights. To illustrate, streams were considered of greater scenic value than lands with steep slopes and, therefore, were given a higher numerical weight. The score for scenic value in any given grid cell was determined by combining the numbered weights prescribed for each variable present in that cell. The total scores for individual grid cells ranged from a low of 0 (least scenic) to a high of 26 (most scenic). Next, cut-off points were chosen in order to divide scenic value ratings into six levels. Cells with a total weight of 0 to 6 were judged the least scenic, while cells with a total weight ranging from 21 to 26 were the most scenic. The other four levels fall in between and similarly were divided into ranges. The weights assigned to the variables, the cut-off points used to establish scenic value levels, and detailed steps for computer programming of the County-wide model are presented in Appendix A.

The results of the County-wide model can be seen on the Scenic Values County-wide map, with the travel corridors and perimeters of urban areas superimposed. By combining the variables and adding the weights for each cell, the map distinguishes among six levels of scenic quality. These values can be combined into three general classes - low, moderate, and high. High ratings indicate areas having attributes which warrant strong consideration for open space designation and preservation. Moderate ratings indicate the advisability of prescribing special design standards, and subjecting plans to design review by the Planning Commission before development is permitted. It should be noted that areas with moderate and low ratings, while appropriate for development from the standpoint of scenic quality, may not actually be developable because of the presence of other factors, such as geologic constraints, flood hazard, or extreme fire danger.

The Study Area Model - The model for the four study areas is similar to the County-wide model, but looks at variables that have visual implications at a finer scale, using 5.74-acre grid cells. In addition to the Protection of Local Water Resources map, the Environmental Biology by Type map, and the Predominent Slope map for each study area, this model also used information from the Land Use maps and the Elevation maps. (All of these map series are on file in the County Planning Department.) The reasons for including the first three types of data are the same as for the County-wide model. In the four study areas, land use served as an index of the visual integrity of the landscape based on the type of development or degree of man-made intrusion. Elevation provided a measure of the potential viewing distance of the observer. High elevations offer greater panoramic opportunities. Weights assigned to the variables, cut-off points for the classification system, and detailed steps for computer programming of this model can be found in Appendix B.

The results of the County-wide and study area models can be seen on the Scenic Values maps. The six classifications can be regarded as three scenic values: low, moderate, and high. It should be noted that the total number of acres contained in the computer analysis boundaries of the South Coast and the Lompoc study areas differ by about 1,050 and 1,450 acres, respectively, from the totals indicated for these study areas in the Conservation Element. At the request of the County Park Department, five areas were added to the computer analysis for inclusion in the analytical models of scenic values and recreation use suitability. (The latter model was prepared for the Recreation study.) These five areas are:

- South Coast: Torro Canyon Watershed north of Carpinteria.

- South Coast: Santa Barbara Wilderness Area north of the City of Santa Barbara.

- Lompoc: Cebada Canyon northeast of Lompoc.

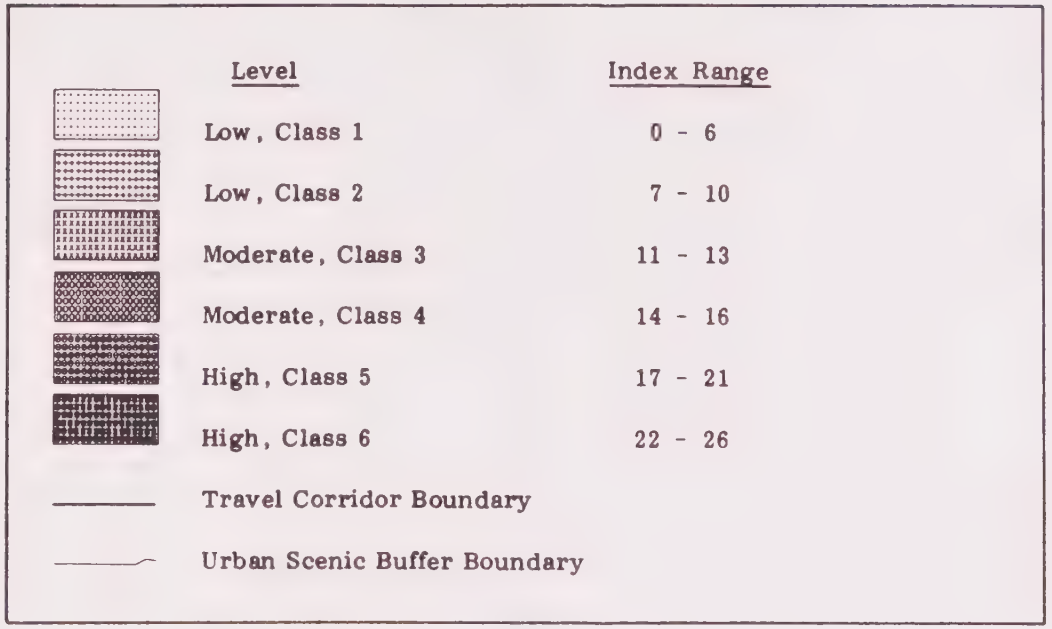
- Lompoc: Eastern portion of the Federal Correctional Institution, site of a proposed park.

- Lompoc: La Salle Canyon southwest of Lompoc.

Only 10.5 percent of all land included in the computer analysis of the four study areas was classified as having high scenic value, while nearly 58 percent was in the low category. The Santa Ynez Valley has the highest percentage of all the land classified in the high level, 20.4 percent, whereas the Santa Maria-Orcutt area has the lowest, 4.2 percent. Much of the high scenic value land in the Santa Ynez Valley corresponds with the numerous creeks, the river, and the hills in the northern portion of the study area. County-wide, 10.6 percent of the land included in the computer analysis was classified as having high scenic value, and 56 percent was in the low value category.

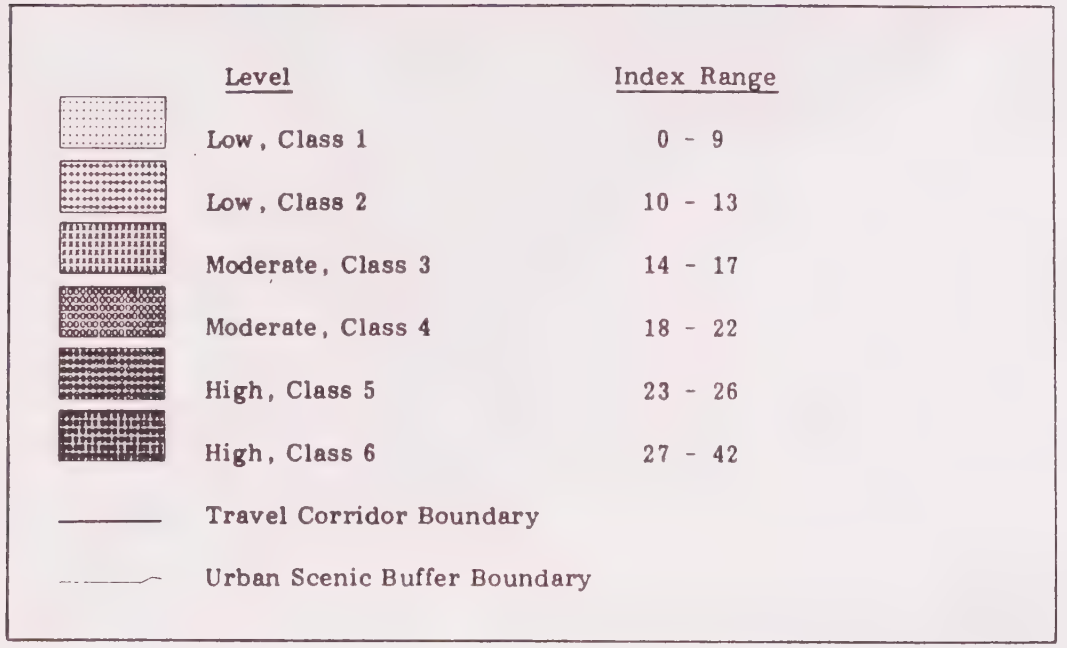
Scenic Values Model Refinement - The County-wide and study area scenic values maps have had superimposed on them the major travel corridors and urban areas perimeters because these are among the most important scenic areas from the standpoint of the number of people who see them. Additional analysis of these areas led to some changes in the value classifications of some of the lands in these corridors and peripheral areas, and this evaluation is discussed below. Another extremely important aspect of scenic quality is the backdrop of the urban areas, much of which is beyond the one-quarter-mile band shown on the maps. While no additional data were mapped for these areas, the background mountains and coastline, which form such a strong image of many of Santa Barbara County's communities, played a major role in the development of the Open Space Design Concept, and will be no less important in determining land use and the ultimate boundaries

Santa Barbara County
Scenic Values



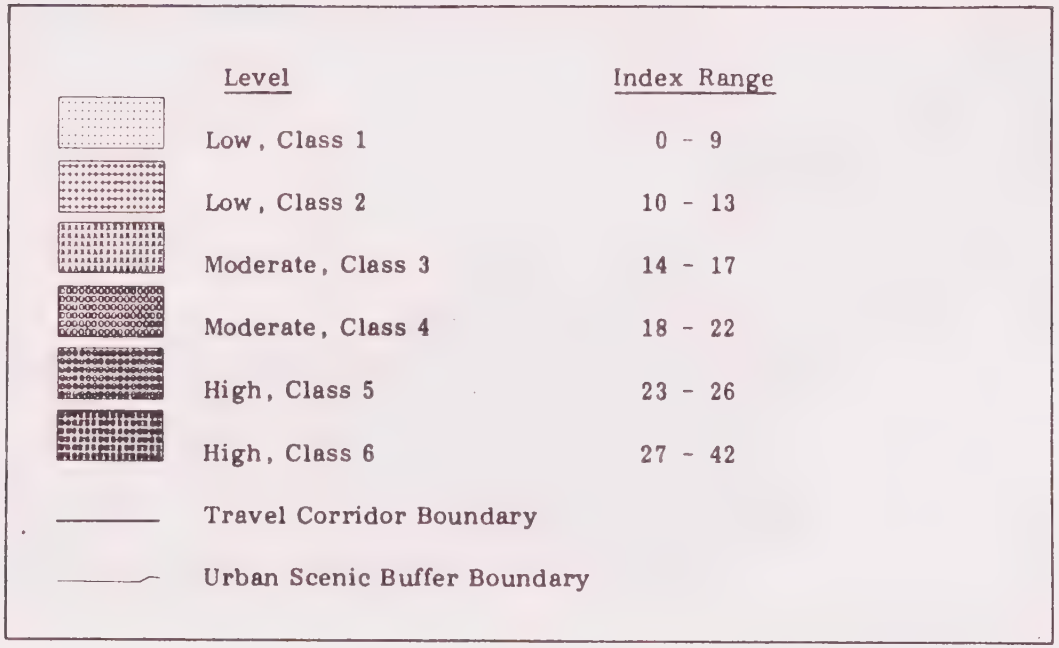

GUADALUPE
SANTA MARIA
POINT SAL
ORCUTT
CASMALIA
25
PT. RESIDUA POINT
VANDENBERG AIR FORCE BASE
SURF
LOMPOC
POINT ARGUELLO
POINT CONCEPTION
LAVIOTA
SANTA MARIA RIVER
CUYAMA RIVER
LOS PADRES NATIONAL FOREST
Zaca Lake
SANTA YNEZ RIVER
MONTECITO
CARPINTERIA
SUMMERLAND
SANTA BARBARA
N
SCENIC VALUES

South Coast Study Area - East Scenic Values



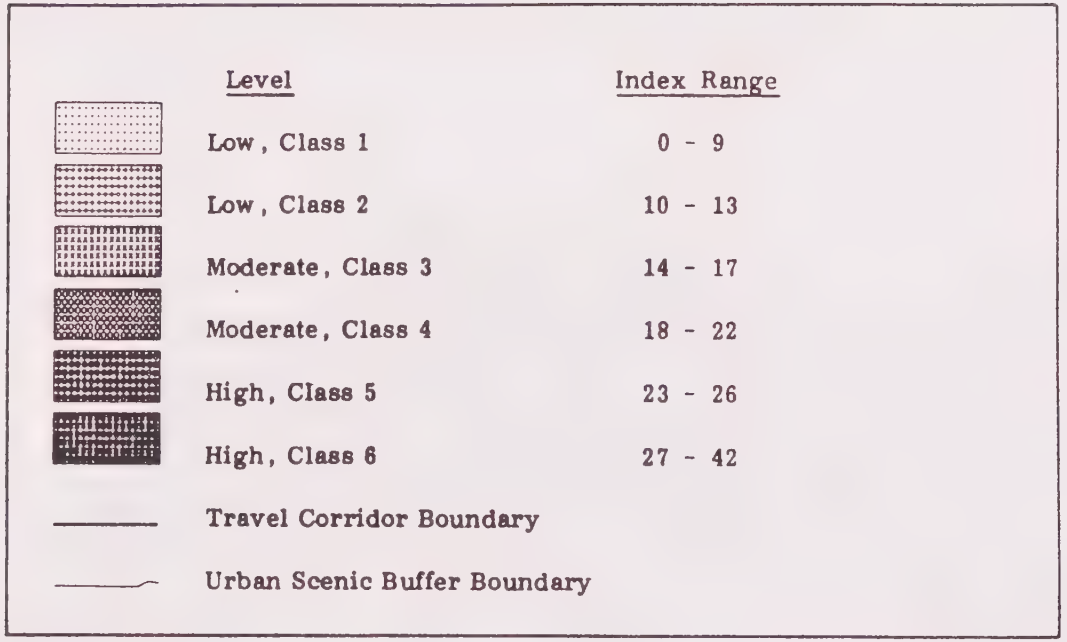
LOS PADRES NATIONAL FOREST
STUDY AREA BOUNDARY
VENTURA COUNTY
SANTA BARBARA COUNTY
SUMMERLAND
CARPINTERIA
SANTA BARBARA
Cliff Drive
Foothill Road
Carrillo
Road
Hobson Rd
N
SCENIC VALUES

South Coast Study Area ~ West
Scenic Values



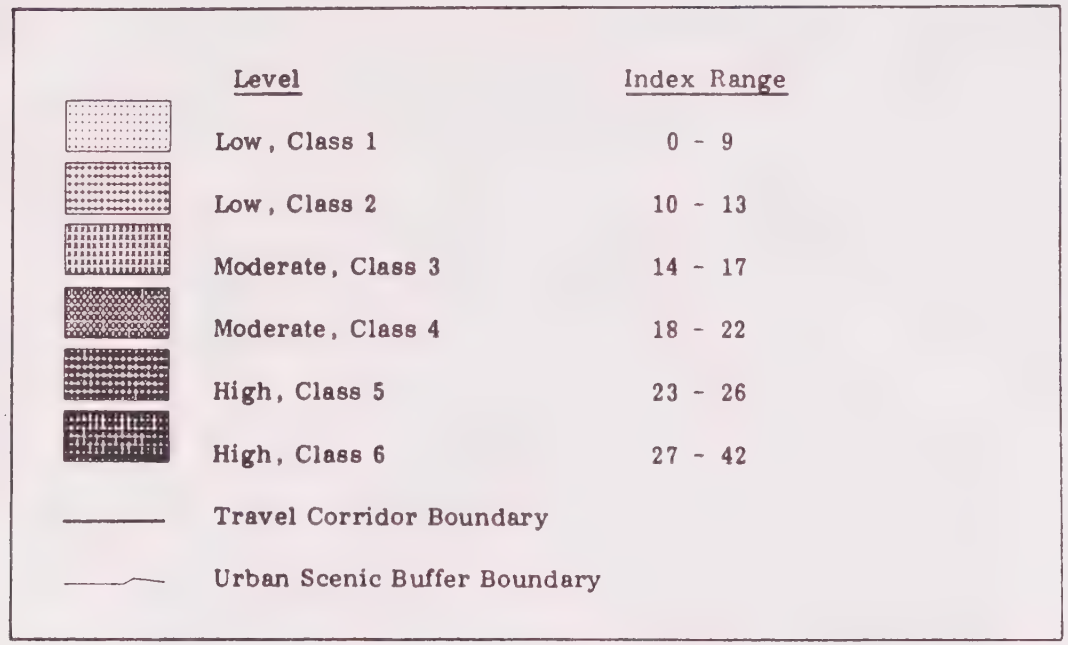

State Route 154
COMPUTER ANALYSIS AREA BOUNDARY
Cathedral Oaks Road
U.S. HIGHWAY 101
Hollister Ave.
GOLETA
AIRPORT
ISLA VISTA
UCSB
Storke Road
State Street
Cliff Drive
SANTA BARBAR
N
SCENIC VALUES

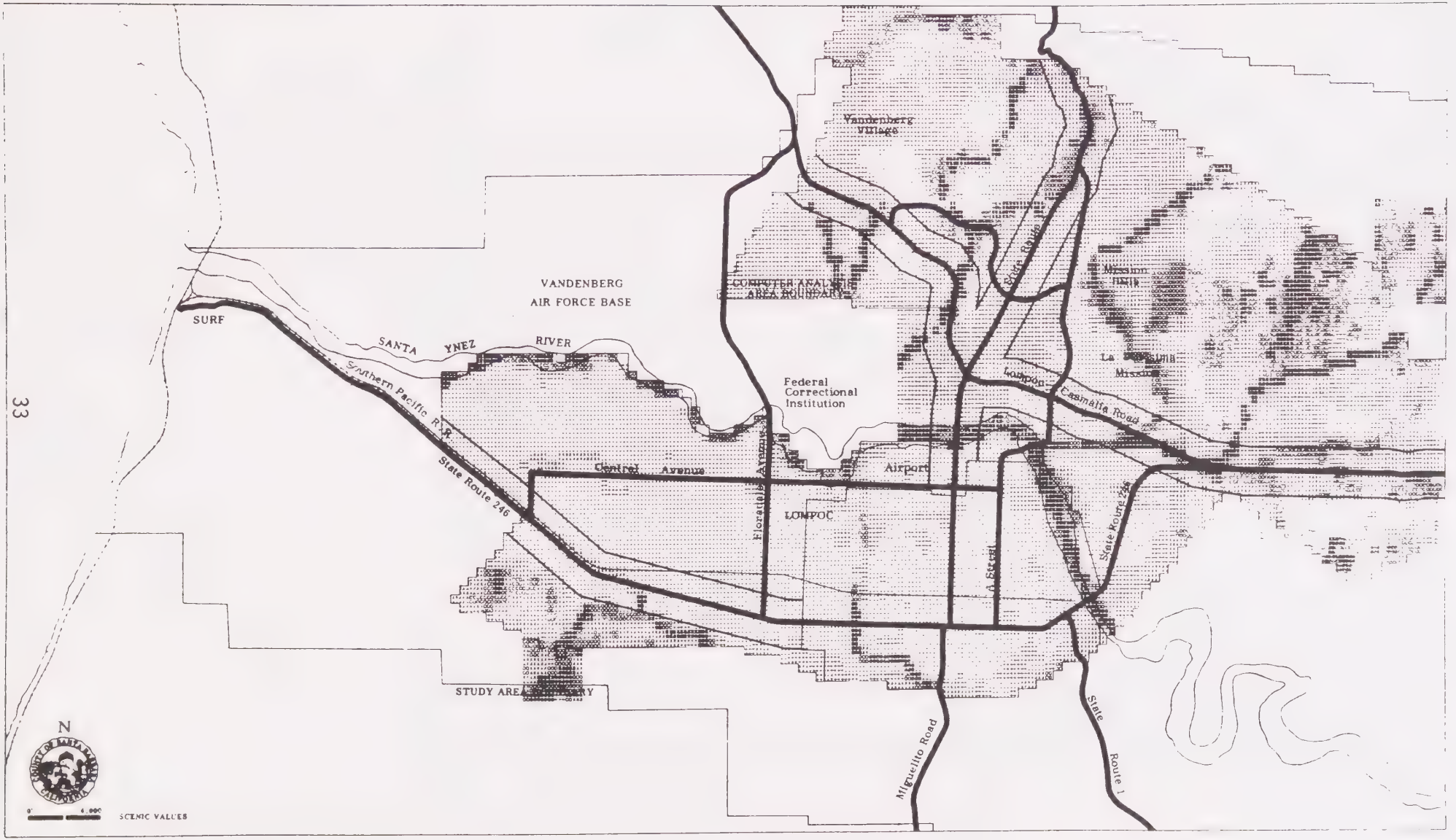
Santa Ynez Valley Study Area
Scenic Values



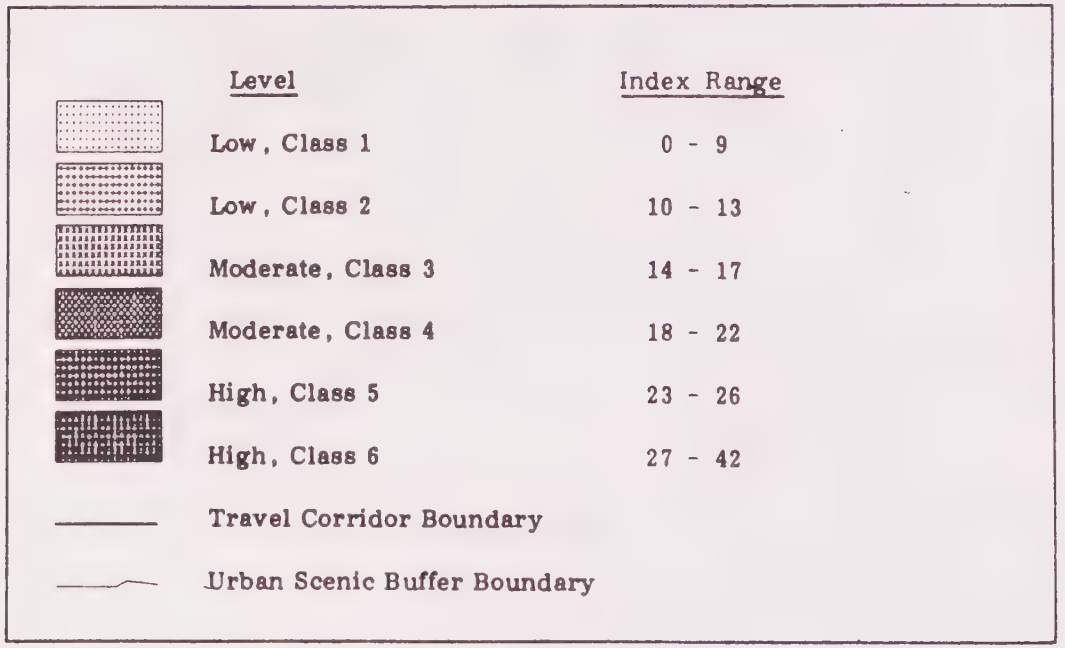

COMPUTER ANALYSIS AREA BOUNDARY
STUDY AREA BOUNDARY
HIGHWAY 101
LOS OLIVOS
BALLARD
Ballard Canyon Road
Refugio Road
Alamo Pintado Road
State Route 246
State Route 246
SANTA YNEZ
SANTA YNEZ RIVER
Alisal Road
Airport
N
SCENIC VALUES

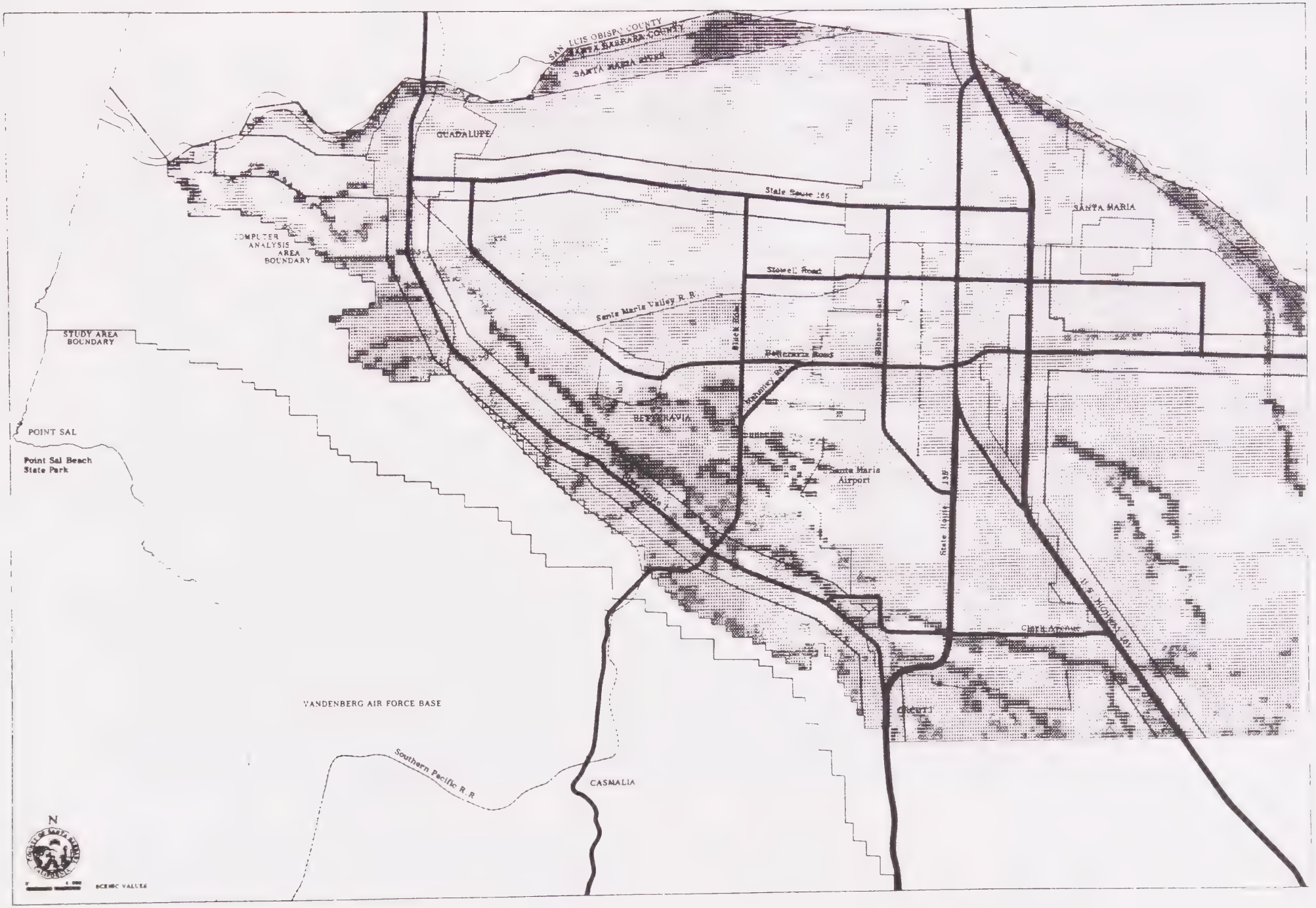
Lompoc Study Area
Scenic Values




VANDENBERG
AIR FORCE BASE
SURF
SANTA YNEZ RIVER
Southern Pacific R.R.
State Route 246
Vandenberg Village
COMPUTER ANALYSIS AREA BOUNDARY
Federal Correctional Institution
Central Avenue
Airport
LOMPOC
Floradale Avenue
H Street
State Route 246
Mission Hills
Harris Grade
Casmalia Road
STUDY AREA BOUNDARY
Miguelito Road
State Route 1
N
SCENIC VALUES

Santa Maria-Orcutt Study Area Scenic Values




SAN LUIS OBISPO COUNTY
SANTA BARBARA COUNTY
SANTA MARIA RIVER
GUADALUPE
State Route 166
SANTA MARIA
COMPUTER ANALYSIS AREA BOUNDARY
Stowell Road
Santa Maria Valley R.R.
STUDY AREA BOUNDARY
Betteravia Road
Bilbao Blvd
Black Road
Skyway Rd
BETTERAVIA
POINT SAL
Point Sal Beach State Park
Santa Maria Airport
State Route 135
U.S. HIGHWAY 101
Clark Avenue
VANDENBERG AIR FORCE BASE
Southern Pacific R.R.
CASMALIA
N
SCENIC VALUES

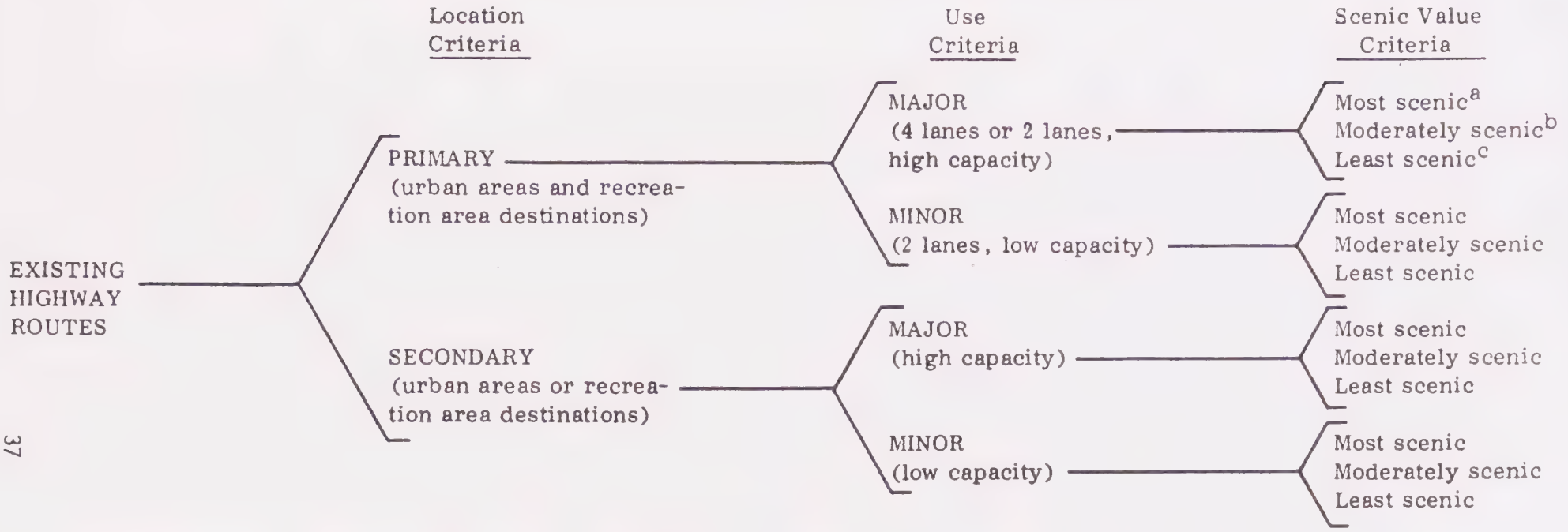
of urban areas in the Comprehensive Plan. (Some known scenic roads, such as Camino Cielo on the South Coast and portions of State Route 166, were not included in the travel corridor analysis. Because these roads are located in the National Forest or are partially outside of the County, the computerized environmental data used to derive the scenic values models were not available. For the same reason, Vandenberg Road within the Air Force Base was not evaluated.)

Travel Corridors - Highway travel gives residents and visitors the greatest exposure to the County's visual attributes. For purposes of this analysis, the various roads were designated as primary routes if they connect both urban areas and recreation areas, and as secondary routes if they connect only urban areas or only recreation areas, or if they connect with another road at a point which is not a destination. These two classifications then were divided into major capacity (four lanes or more, or high-volume two-lane roads), and minor capacity (other two-lane roads). Each of these four road types then was evaluated by the consultants in accord with the structure described in Table 1. This procedure provided a method of developing a priorities list for preservation of lands with outstanding scenic quality. Using the definitions of primary, secondary, major capacity, and minor capacity, a single road may have more than one category along various parts of its total length, depending on destination points and traffic volume on each particular segment.

The method of travel corridor scenic evaluation rested on the assumption that the most critical visual zone is the foreground view. The middle and background also are important, but analysis in the same degree of detail as the foreground view was not feasible within the study's time frame. As stated earlier, the foreground was defined as approximately one-quarter mile on either side of the road. Each primary and secondary type of route was categorized and delineated on gridded maps, and the appropriate width corridor drawn as shown on the Scenic Values maps. The purpose was to examine these corridors more closely by site visits and to document any additional information that did not show up on the computer maps. This was particularly important in areas not included in the study area computer analysis boundaries because the only data available for such areas was from the County-wide model with 92-acre grid cells showing only the most dominant features of each variable recorded. Site visits provided opportunities to see the finer features of each corridor. The objective was to establish three levels of scenic value by combining the information on the computer maps, the judgment of the evaluators based on their knowledge and experience, and the travel corridor evaluation priorities shown in Table 2.

Following the visits, usually made by driving the road segment and occasionally recording predominant features of the view verbally on tape and pictorially on slides, the information on the computer maps

TABLE 2. TRAVEL CORRIDOR EVALUATION STRUCTURE



(a) Corresponds with Class 5 and Class 6 on Scenic Values Model map
(b) Corresponds with Class 3 and Class 4 on Scenic Values Model map
(c) Corresponds with Class 1 and Class 2 on Scenic Values Model map

TABLE 3. TRAVEL CORRIDOR EVALUATION PRIORITIES

LEVEL ONE	1.	Most scenic, major capacity, primary destination route
	2.	Most scenic, major capacity, secondary destination route
	3.	Most scenic, minor capacity, primary destination route
	4.	Most scenic, minor capacity, secondary destination route
LEVEL TWO	5.	Moderately scenic, major capacity, primary destination route
	6.	Moderately scenic, major capacity, secondary destination route
	7.	Moderately scenic, minor capacity, primary destination route
	8.	Moderately scenic, minor capacity, secondary destination route
LEVEL THREE	9.	Least scenic, major capacity, primary destination route
	10.	Least scenic, major capacity, secondary destination route
	11.	Least scenic, minor capacity, primary destination route
	12.	Least scenic, minor capacity, secondary destination route

for the travel corridor was re-evaluated. The first step was to identify definitively areas of highest scenic value, or Level One corridors. All Class 5 and 6 grid cells in each corridor were studied, and the additional data accumulated from the site visit applied. This resulted in one of two actions: either the Class 5 and 6 cells were left in the highest scenic value level or they were downgraded. In most cases, Class 5 and 6 symbol grid cells remained in their original classifications and, therefore, were designated as Level One, most scenic. To indicate the scenic value of an entire travel corridor segment, the proportionate number of cells in each level had to be taken into account. For example, if one road segment comprised a total of 20 grid cells and 8 of them were Level One, but another 20 grid cell road segment had 15 cells in Level One, it was obvious that the latter road segment was more scenic and, therefore, belonged in a higher value category than the former.

The same type of analysis then was done to determine the final levels for Classes 1-4 grid cells. In some cases, the computer ratings were upgraded as a result of information obtained from the site visits. The results of this analysis was the division of the travel corridor segments into three scenic value levels, with Level Two being moderately scenic and Level Three being the least scenic.

The final step in the analysis was to place each road segment in one of the twelve categories shown in Table 2 to correspond with that segment's type of destination route and traffic capacity. This resulted in each of the three scenic value levels being divided into four sub-categories. This degree of analysis was deemed necessary because it was assumed that it may be desirable for the County to preserve all Level One areas in permanent open space. The four categories within each level, therefore, give the County a method to evaluate scenic lands in travel corridors and to determine which ones should receive first consideration for protection, even if they are considered equally scenic.

The results of the travel corridor visual analysis were documented on separate maps for the County-wide and study areas, but only the County-wide Travel Corridors and Urban Perimeters Evaluation map, consolidating the data, is reproduced in this report. This map synthesizes data from both the original County-wide and study area source maps. For those in need of information as precise as that contained in 5.74-acre grid cells, the study area maps are on file in the County Planning Department. They were utilized in preparing the Open Space Design Concept maps presented later in this report.

Another factor that could not be represented on the Travel Corridors and Urban Perimeters Scenic Evaluation map, but which is reflected in the summary of route segments in Table 3, is the influence of the middleground and the background in determining the level of scenic

TABLE 3. TRAVEL CORRIDORS EVALUATION[a]

Scenic Level	Route Segment	Segment Category[b]	Map Reference
One	U.S. 101: Los Alamos-Buellton	1	11
One	U.S. 101: Gaviota Beach-South Coast Urban Complex	1	29
One	U.S. 101: Montecito-Rincon Point	1	30
One	Cal. 154: Lake Cachuma-Santa Barbara	3	23
One	Jalama County Park-Gaviota Beach State Park	3	28
One	Cal. 176/Foxen Canyon Road: Santa Maria-Los Olivos	4	5
One	Drum Canyon Road: Los Alamos-Lompoc/Buellton Highway	4	12
One	Cal. 154: U.S. 101-Los Olivos	4	13
One	Toro Canyon Park-Serena Park	4	31
One	Jalama Road: Cal 1-Jalama County Park	4	27
One	Cal. 1: Lompoc-Las Cruces	4	26
One	Cal. 166: Cuyama-Twitchell Reservior	4	32
Two	Cal. 1: Orcutt-Los Alamos turnoff	5	6
Two	U.S. 101: Buellton-Gaviota Beach State Park	5	25
Two	Cal. 1: Guadalupe-Orcutt	6	3
Two	Cal. 246: Lompoc-Buellton	7	15
Two	Cal. 246: Buellton-Solvang	7	18
Two	Cal. 246: Santa Ynez-Solvang	7	19
Two	Cal. 154: Santa Ynez-Lake Cachuma	7	22
Two	Alisal Road: Solvang-Nojoqui County Park	7	24
Two	Cal. 135: Cal. 1-Los Alamos	8	8
Two	Santa Rosa Road: Cal. 1-U.S. 101 (Santa Ynez River)	8	20
Three	U.S. 101: San Luis Obispo County-Santa Maria	9	2
Three	U.S. 101: Santa Maria-Los Alamos	9	4
Three	Vandenberg Road, S20: Cal 1-Vandenberg Village	10	7
Three	Vandenberg Road, S20: Vandenberg Village-Cal 1	10	10
Three	Cal. 166, West Main Street: Santa Maria-Guadalupe Dunes Pk.	11	1
Three	Cal. 1: Los Alamos turnoff-Lompoc	11	9
Three	Cal. 246: Surf-Lompoc	11	14
Three	Miguelito Road: Lompoc-Miguelito County Park	11	21
Three	Alamo Pintado Road: Los Olivos-Solvang	12	16
Three	Cal. 154: Los Olivos-Santa Ynez	12	17

(a) On-site evaluation of the travel corridors revealed that the forground view, the major additional input in the analysis, was not dominant along sections of some roads. However, in some cases, the middleground and background views were so dominant that they resulted in a change from a lower to a higher level of scenic value. This is the reason for discrepancies between the level shown for some road segments on the Travel Corridors Evaluation map and this table.

(b) Categories refer to the twelve outlined in Table 2, Travel Corridor Evaluation Priorities.

quality. On some roads, because of the topography and the grading, foreground plays a much smaller role than middleground and background in the frame of vision. For example, the map shows major portions of Jalama Road (segment 27 on the map) as Level Two and Level Three due to the fact that the scenic quality of the foreground is much lower than that of the middleground and the background which provide beautiful vistas along much of the road. Since the map only reflects the visual quality within one-quarter mile on either side of the road, the foreground was rated low. The site visit resulted in the reclassification of Jalama Road to Level One in Table 3. The same situation occurred in the evaluation of Route 1 (segment 26) from Las Cruces to south of Lompoc, an official State Scenic Highway. It was the scenic quality of the middleground and the background that led to its reclassification from Levels Two and Three, which predominate on the map, to Level One in Table 3.

Those travel corridors which are shown as Level One in scenic value in Table 3 deserve prime consideration for scenic highway designation. State scenic highway standards require particular regulations of development within travel corridors, but do not demand that they be preserved in open space. However, where other factors that justify prohibition of development or acquisition of the land coincide with Level One scenic value, a strong case for open space preservation is presented.

Level Two travel corridors include a few Class 5 and 6 ratings, but predominately received Class 3 and 4 ratings. These zones may not be so scenic as to warrant preservation as open space, but should be treated with care if development is permitted. A systematic design review procedure should be employed to evaluate the impact of any development proposal. This method can assure that construction does not significantly alter, diminish, or compete with those features of the landscape that provide visual enclosure, that define the scale of the area or the scale of its elements, that provide visual variety or transient qualities (such as widlflowers or wildlife), or that determine the visual integrity of the site.

Urban Perimeters - The immediate perimeter zones surrounding developed areas are visually important to three different groups: travellers, residents who live near city edges, and residents of other parts of the community. Provided that there is a clean break at the edge of urban development, peripheral open space conveys to arriving travellers a clear image of the city's identity, as well as providing the first visual relief when they depart. Those who live close to this edge are stationary observers who are aware of the visual qualities of the zone in detail, while other residents have a more general impression of its characteristics. To all three groups, peripheral open space gives a sense of community identity which is of great psychological importance, particularly to residents. It brings

home to them the fact that they live in a community of human scale and manageable size, that they are not in danger of drowning in an endless sea of urbanization. Where the open edges can be seen from many parts of the community, as with the ocean and the mountains on the South Coast, their psychological advantages are proportionately greater. Even where they cannot be seen from homes or work places, peripheral open spaces can give a sense of freedom to local residents, particularly if they know that they are available for recreational use and lie within reasonable travel time.

The site visits to the urban perimeters and the resulting refinements of the scenic values model necessarily were less routine than the procedure used to evaluate the travel corridors' scenic qualities. This was so because, unlike a road, the edge of an urban area is difficult to define precisely and often is unaccessible. It was found that significantly fewer revisions in the ratings assigned by the Scenic Values model were necessary than in the case of the travel corridors because five variables (water resources, plant communities, slope, elevation, and land use) were included in the study area model, compared with only three in the County-wide model. A much larger proportion of the land within a quarter-mile of the urban perimeters fell within the bounds of the study areas than was the case with lands within a quarter-mile of the roads in the travel corridors.

Using the Scenic Values Models

The classification of scenic areas resulting from the above models may not entirely agree with individual opinions. Disagreement about a subjective topic such as "scenic quality" is bound to arise. It should be remembered that these findings are based on particular criteria. For the County-wide model these were water resources, environmental biology by type, and predominent slope. For the urban model two additional criteria, elevation and existing land use, were employed. Obviously, there are other factors which could considerably alter an area's rating.

When using the Scenic Values models, its findings for a particular project area should be critically analyzed and compared with any available studies on scenic quality. If conflicting values are indicated for a project site, detailed study should be conducted (possibly as part of the environmental review) to resolve them. The Scenic Values models could be updated to reflect new findings, if necessary.

In future determinations of scenic values or quality, the following criteria should apply:

a. Certain urban and rural areas should be controlled as to their intensity, design, and arrangement of development to retain their

unique, scenic feature.

b. Development should be compatible with its surroundings and if possible enhance it.
c. Adopted architectural themes shall be adhered to in the areas which have designated themes.
d. In keeping with the dominant rural character of the County, natural features and settings are preferred.
e. Variety in design and landscaping shall be encouraged.
f. Scenic corridors should be designated in conjunction with the Scenic Highway Element, and development within them carefully regulated to maintain their scenic qualities.
g. Sign control shall be implemented through the existing County Sign Ordinance.
h. Landscape plans shall be required for all major developments and for developments in certain designated scenic areas.
i. The "D-Design Supervision Combining Regulation" for zoning should be used to implement design review.
j. Open space uses are encouraged for all scenic areas.

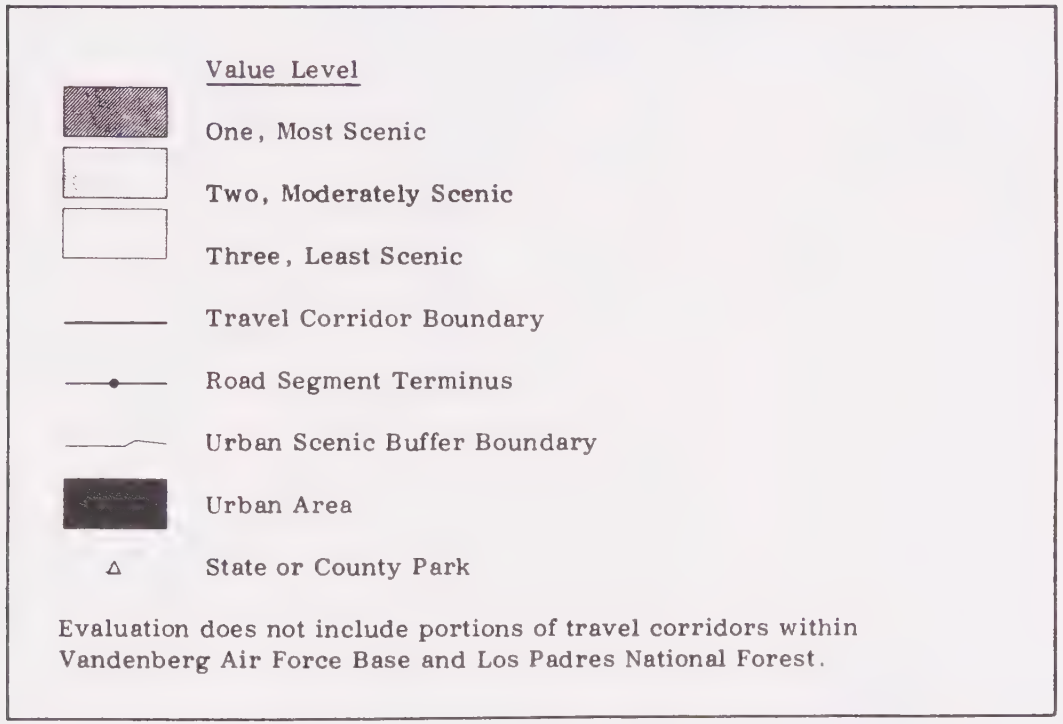
Any development proposal should be evaluated for compatibility with the Open Space goals of the appropriate advisory committee.

Travel corridors and urban perimeter areas determined to be of the highest scenic value should be designated open space if possible. Other scenic areas should be subjected to design review before development permission is granted. Preservation of the integrity of the site and minimum visual disturbance or change from existing conditions should be the principal criteria used in the review process. Other peripheral areas may not need special protection unless there are reasons other than scenic quality that call for their preservation. Such open spaces may be needed to shape or to limit urban expansion, even if other development constraints are not present.

As with the travel corridors, limitation of the field studies of urban perimeter areas to approximately a quarter-mile inevitably proved to be arbitrary in some instances. Beyond the perimeter lie the middle-ground and background which may be visually more important than the foreground. Although generally less subject to development pressures, these more distant areas may be vulnerable to special cases, such as the hillside backdrop of the South Coast communities where residential construction is a recurring threat. A comprehensive field survey of visual background lands surrounding the County's urban areas would be enormously time consuming and was not within the scope of this assignment. Aerial or ground photography also could be used to refine the findings of the analysis model.

Although the scenic values model classified all of the lands within the computer analysis areas into six categories, it cannot be ascertained from the maps which middleground and background areas can

Santa Barbara County Travel Corridors and Urban Perimeters Evaluation

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POINT SAL
ORCUTT
LOS ALAMOS
VANDENBERG AIR FORCE BASE
PURISIMA POINT
SURF
LOMPOC
LOS OLIVOS
BUELLTON
SANTA YNEZ
SOLVANG
LAS CRUCES
POINT ARGUELLO
POINT CONCEPTION
LOS PADRES NATIONAL FOREST
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be seen from particular points. Although the elevation of a viewpoint can give some indication of the scale of a vista, this is not always a reliable index because buildings or trees close to the viewer may block portions of a panorama. The location of a road or the steepness of a slope may make it possible to see distant mountain ridges, while those closest to the viewpoint are obsured. Site visits, photographs, and other pertinent data can be used to make adjustments in the Scenic Value ratings assigned by the computer model, taking account of scale, distance, and obstructions at particular viewpoints.

In revising Scenic Value ratings, it should be borne in mind that the computer analysis was done on a very precise cell-by-cell basis, whereas manual evaluations tend to be less precise, but focus more on larger landscape features and take account of the corridor of vision between the observation point and the backdrop. This kind of combination or grouping which predominates in the mind of the human evaluator is particularly valuable in judging the quality of middleground and background views where details are less important than general impressions.

Outdoor Recreation

For more than two decades, the demand for outdoor recreation facilities has been growing rapidly in the U.S. as a result of higher incomes, increased leisure time, and the desire to escape occasionally from urban life. Once only hardy campers, a relatively few second-home owners, and people who could afford vacations at luxury resorts generated most of the demand for recreational open space beyond a day's drive from home. Today the availability of trailer and camper vehicles has added millions of American families to the market. Most recently, inflation has increased the demand for close-to-home vacation opportunities as a substitute for trips to other parts of the country and abroad. In Santa Barbara County, the mounting pressure has been particularly strong because of the County's natural scenic recreational assets and its location within a few hours drive of most of Southern California's 12.5 million residents.

Open space for outdoor recreation can take many forms:

- Community parks with facilities for active recreation.
- Regional parks with facilities for active recreation as well as scenic areas for passive recreation.
- Natural areas where public access is permitted but activities are limited (natural preserves).
- Beaches for active and passive recreation activities.
- Wilderness areas for hiking and backpacking.
- Bicycle, hiking, and equestrian trails.

- Water areas suitable for boating, swimming, and other types of recreation.

- Public (and private) special recreation facilities such as golf courses and riding academies.

- Public (and private) campgrounds.

In addition, other types of facilities such as neighborhood parks and community swimming pools are used for outdoor recreation, but the small size of the sites and the relatively small number of people they accommodate make it more appropriate to classify these areas as public service facilities than as Open Space for Outdoor Recreation.

The Open Space Design Concept maps show only existing and officially proposed parks including those definitely programmed for acquisition by the County or the cities. Only parks serving larger than neighborhood populations are indicated. If recreation suitability were shown on the maps, other vital Open Space factors (public health and safety, managed production of resources, preservation of natural resources) would be concealed in some instances. Undoubtedly there are certain lands shown in these categories that ultimately will be proposed as park sites. For example, a reservoir (open space for public health and safety) may be recommended for recreational use. Such recreation site decisions must be made in the context of urban expansion decisions. Based on the Comprehensive Plan and the Recreation study, a system of parks, recreation areas, and recreation trails geared to the County's 1990 needs should be adopted. There is a chapter on Recreation in the Land Use Element.

Table 4 lists all of the existing and officially proposed parks and recreation areas in the County. All of the lands listed are shown on the Open Space Design Concept maps as Open Space for Outdoor Recreation. In addition to the areas listed, Los Padres National Forest performs important recreation functions in the County. It contains numerous hiking and four-wheel drive vehicle trails, as well as backpacking and wilderness areas.

Recreation Trails - Trails can serve many recreation activities -- bicycling, hiking, nature study, backpack camping, horseback riding, and off-road vehicles use - and are an important feature of a total recreational system. The County potentially offers a wide diversity of trails opportunities, ranging from urban bikeways to beach walks and forest paths. Rights of way for trails can be provided as a by-product of other open space conservation actions. For instance, linear open spaces, such as stream banks and earthquake fault zones,

TABLE 4. EXISTING AND PROJECTED PARKS AND RECREATION AREAS (a)

NAME	LOCATION	OWNERSHIP	AREA (acres)
Arroyo Burro Beach	Santa Barbara	County	9
Bella Vista Park	Goleta	County	31
Birnam Wood Golf Course	Montecito	Private	170
Botanic Gardens	Santa Barbara	Private	70
Carpinteria Beach State Park	Carpinteria	State	48
Cathedral Oaks Equestrian Park	Goleta	County	26
Cebada Canyon Park	Lompoc	County	40
Channel Drive Beach	Montecito	Private	16.5
Earl Warren Showgrounds	Santa Barbara	State	34
El Capitan State Park	South Coast	State	431 (b)
Gaviota Beach State Park	South Coast	State	2,916 (c)
Goleta Beach Park	Goleta	County	29
Guadalupe Dunes Park	Guadalupe	County	26
Hans Christian Andersen	Solvang	County	51
Jalama Beach Park	Point Conception	County	28
Kenneth L. Adam Park	Lompoc	U.S.A.	61
La Cumbre Golf and County Club	Hope Ranch	Private	40
Lake Cachuma Recreation Park	National Forest	U.S.A.	9,300 (d)
Lake Las Carneros	Goleta	County	90+
La Purisima Mission State Historic Park	Lompoc	State	1,059 (e)
LeRoy Park	Guadalupe	County	4
Los Alamos Park	Los Alamos	County	52
Manning Park	Montecito	County	12
Miguelito Park	Lompoc	County	4
Mission Santa Barbara	Santa Barbara	Private	23+
Mission Santa Ines	Solvang	Private	50
Montecito Beach	Montecito	Private	5
Montecito Country Club	Santa Barbara	Private	90
Nojoqui Falls Park	South of Solvang	County	83
Ocean Park (Surf)	Lompoc	County	40
Painted Cave	National Forest	State	7
Par 3 Golf Course	Goleta	Santa Barbara	17
Point Sal-Guadalupe Dunes State Park	Guadalupe	State	49
Polo Field	Montecito	Private	36
Rancho Maria Golf Course	Orcutt	Private	130

(a) Projected parks and recreation areas refers only to those acquisitions expected from funds available through the State Park Bond Act of 1974, and any parks announced for acquisition or development by the County or local governments. Additional parks to be recommended by the Recreation Element, such as large undeveloped County properties (Rattlesnake Canyon, for example), are not included. Trails are also excluded.

(b) 111 acres existing; about 320 additional to be acquired under State Park Bond Act of 1974, includes additional 8,000 lineal feet of ocean frontage.

(c) 2,796 acres existing; about 120 additional to be acquired as under State Park Bond Act of 1974.

(d) Only 154 acres developed.

(e) 903 acres existing; about 156 acres to be acquired under State Park Bond Act of 1974.

TABLE 4. EXISTING AND PROJECTED PARKS AND RECREATION AREA (cont.)

NAME	LOCATION	OWNERSHIP	AREA (acres)
Refugio Beach State Park	South Coast	State	81 (f)
Richardson Park	Cuyama	County	15.7
Rincon Beach	Carpinteria	County	3
Rocky Nook Park	Mission Canyon	County	19
San Antonio Canyon Park	Goleta	County	95
San Marcos Golf Course	Goleta	Private	35
San Milano Drive Park	Goleta	County	26
Sandpiper Golf Course	Ellwood	Private	180
Santa Barbara Island National Monument	Santa Barbara Channel	U.S.A.	650
Santa Rosa Park	Buellton	County	21
Santa Ynez Park	Santa Ynez	County	5
Santa Ynez River Park	Lompoc	Lompoc	250
Stow Grove Park	Goleta	County	12
Suey Park	Santa Maria	County	19
Toro Canyon Park	Carpinteria	County	68
Tucker's Grove Park	Goleta	County	20
UCSB/Devereux Slough	Goleta	State	70
University Village Golf Course	Goleta	Private	67
Valley Club Golf Course	Montecito	Private	150
Vandenberg Air Force Base Golf Course	VAFB	Private	-
Vandenberg Village Country Club	Lompoc	Private	133
Vandenberg Village (north)	Lompoc	County	20
Waller Park	Santa Maria	County	154

(f) 39 acres existing; about 42 additional to be acquired under State Park Bond Act of 1974, includes additional 9,000 lineal feet of ocean frontage.

generally can accommodate recreation trails. They can, of course, traverse any open space land as long as it is in public ownership, an easement, or other right of public access has been secured.

The Open Space Design Concept maps do not indicate trails. A County wide trail system will be proposed in the Recreation Element. Many, if not most of the trails will traverse open spaces proposed for pre servation in this report, but some, such as bikeways in urban areas, may not. The Recreation Element will identify areas where the use of off-road recreation vehicles can be permitted.

Airport Hazard and Noise Impact

Because of the major public investment in trafficways and utilties associated with airports, surrounding areas often become a focus for urban development. In addition to aircraft and aircraft parts manufacture, such transport-oriented industries with national or international markets, bonded warehousing, car rental agencies, and hotels find airport locations advantageous. The presence of these businesses, the highway networks connecting urban centers with the airport, and the possibility of new development tapping into the utility lines originally installed to serve the airport are three of the factors that have led to increased urbanization, including some types that unquestionably are out of place near airports. Residential development, schools, hospitals and places of public assembly fall in this category. The problems of safety and noise, as well as the high rate of depreciation of housing values in areas subjected to airport noise, are sufficient reasons for imposing land use controls to prohibit, or at least to limit, these types of uses.

Regulations based on public safety and noise factors should control land uses in the area surrounding airports. Throughout the U.S. and abroad, governments have established zones which prohibit buildings within prescribed distances of airport runways and control land uses within noise impact areas. Some airports, are completely surrounded by greenbelts which are free of all development.

There are four airports in the County. Santa Barbara Municipal Airport and the Santa Maria Public Airport operate commercial flights, while the Santa Ynez and Lompoc County Airports primarily handle local, private flights. Because of the seriousness of the safety and noise problems generated by airports, particularly with the growing numbers of flights and the higher noise levels created by jet aircraft, land use controls, either to prohibit certain types of development or to control the types of land use around the airports, are in order.

Airport Hazard - As an alternative to land acquisition, it is possible

to zone the areas around airports to protect against hazards to both aircraft and land uses. Generally, this type of zoning regulates the height of potential obstructions such as tall buildings, water towers, and radio towers. The definition of zones and the allowable heights of structures in relation to their locations are contained in Part 77 of the Federal Aviation Regulations, "Objects Affecting Navigable Airspace". While the primary purpose of these regulations is to protect aircraft from obstructions during takeoff and landing, they also help to protect occupants of structures surrounding airports. Although the FAA has no authority to enforce the regulations, it may rule that use of a runway be curtailed if structures near the airport create hazards and are in violation of Part 77. With respect to the Open Space Element, Part 77 has land use implications in that airport-owned lands should include at least the clear zones at the ends of runways, and lands in the approach zones must be kept free of all structures. Further, other nearby areas must be zoned for uses that do not involve structures high enough to violate Part 77, or else height limitations must be imposed and strictly enforced.

The County Zoning Ordinance contains restrictions on building heights in airport approach zones which generally are consistent with FAA standards, but land use types are not specifically regulated. For example, at the Santa Maria Airport, large portion of the land in the southeast flight approach is zoned 10-R-1 (residential with 10,000 square foot minimum lots), and much of it already is developed with homes. A public school also is within this flight path. The other approach zones are within compatible agricultural and industrial zoning districts. However, their regulations do not ensure that there will be no construction within 750 feet on each side of the extended centerline of the runway - the minimum standard considered safe by the Santa Maria Airport District. At the Santa Barbara Airport, the approach zones are more extensive than at Santa Maria. Except for the southern approach, which is over the ocean, the approach zones contain some residential development. However, most of the land either is vacant or is in agricultural, industrial or commercial use. The zoning mainly is industrial or residential-agricultural. Future use of these vacant lands should be carefully regulated.

Airport Noise - Airport noise has become a significant urban problem and has received considerably more attention recently because more people are exposed to this type of noise. Although airports tend to generate urban development, zoning and building code requirements alone are not adequate to protect residents against the high noise levels. Although the Open Space Element does not deal with remedial actions to improve the situation for existing structures, it is appropriate to consider the future use of vacant lands that are subject to high noise levels.

The Noise Element of the Comprehensive Plan will more completely examine noise impacts of airports.

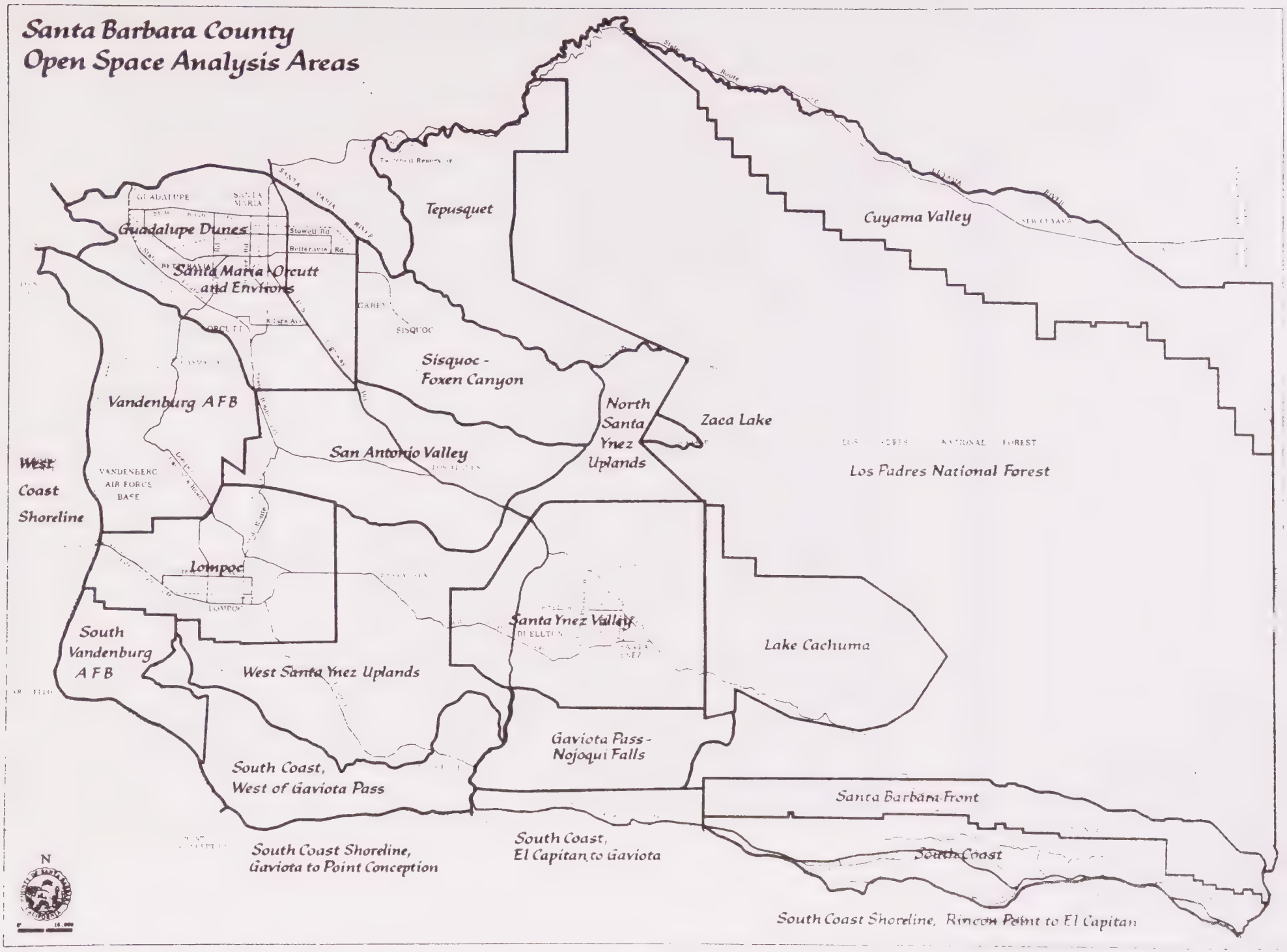
Because of the growing number of complaints and the possibility of development of certain surrounding vacant land, the Santa Maria Airport District has been concerned with its effect on nearby residents. The District has suggested that limitations on new development, particularly residential subdivisions, be imposed. Further, the District has recommended a list of land uses that would be compatible with airport operations. The list, in order of the District's priorities is as follows: airport property, agriculture, open space zoning, recreation (golf course, riding stable, park), cemetery, industry, commercial, garden office complex, apartment houses with adequate soundproofing. For the latter four uses, it is recommended that development not be permitted near the extension of the centerline of the runway.

In addition to the uses recommended by the Santa Maria Airport District, there are a number of uses that are compatible including water and sewage treatment plants, power substations, storm water retention basins, and wholesale plant nurseries. Since many of these uses are public service facilities, where there is vacant land within airport approach or noise-impact zones, it may be prudent for local governments to purchase it for public use. If FAA funds are not available, federal grants for open space acquisition (from the Land and Water Conservation Fund, revenue sharing funds, or community development block grants) or for sewage treatment plant construction (from Water Pollution Control Program funds) may be used to finance site purchases in appropriate instances. Obviously, local funds, including airport revenues, are another possible source.

Area Analysis of Open Space Factors

To put the open space factors in perspective and to identify the principal open space issues in each part of the County, 24 geographic areas were designated for analysis. In the Seismic Safety Element and the Conservation Element, the environmental studies were presented on a subject-by-subject basis, and no attempt was made to synthesize all of the factors affecting land use in a given area. The same approach was used in the sections of the Open Space Factors chapter on steep slopes, scenic quality, outdoor recreation, and airport hazard and noise impact. The areas chosen for analysis correspond generally to the hydrographic unit boundaries previously utilized in the Conservation Element. However, because of their unique characteristics, the study areas, the shoreline, Vandenberg Air Force Base, Los Padres National Forest, and the Channel Islands have been treated as separate units. The boundaries of each geographic unit are shown on the Areas for Open Space Analysis map. The 24 areas chosen for open space analysis are as follows:

South Coast Shoreline, Rincon Point to El Capitan
South Coast
Santa Barbara Front
South Coast, El Capitan to Gaviota
Gaviota Pass-Nojoqui Falls
South Coast, West of Gaviota Pass
South Coast Shoreline, Gaviota to Point Conception
South Vandenberg Air Force Base
Lake Cachuma
Santa Ynez Valley
West Santa Ynez Uplands
Lompoc
Vandenberg Air Force Base and Environs
West Coast Shoreline
Guadalupe Dunes
Santa Maria-Orcutt
Los Alamos Valley
Sisquoc-Foxen Canyon
North Santa Ynez Uplands


Santa Barbara County
Open Space Analysis Areas
Guadalupe Dunes
Santa Maria - Orcutt and Environs
Tepusquet
Cuyama Valley
Sisquoc - Foxen Canyon
Vandenburg AFB
North Santa Ynez Uplands
Zaca Lake
San Antonio Valley
Los Padres National Forest
West Coast Shoreline
Lompoc
South Vandenburg AFB
West Santa Ynez Uplands
Santa Ynez Valley
Lake Cachuma
Gaviota Pass - Nojoqui Falls
South Coast, West of Gaviota Pass
Santa Barbara Front
South Coast Shoreline, Gaviota to Point Conception
South Coast, El Capitan to Gaviota
South Coast
South Coast Shoreline, Rincon Point to El Capitan

Zaca Lake
Tepusquet Canyon
Cuyama Valley
Los Padres National Forest
Channel Islands

The objective of this chapter is to present all of the factors affecting open space proposals in a systematic fashion, synthesizing the findings presented previously in the Seismic Safety Element and the Conservation Element, as well as the additional studies undertaken in the preparation of the Open Space Element. However, the results of the scenic quality studies and the airport hazard and noise impact analyses will not be repeated here. In this chapter, no attempt is made to resolve conflicts among various open space factors, or to explain how priorities for open space preservation will be set.

The focus of this chapter is on natural factors affecting open space lands, rather than on urban development issues. For supporting data and specific maps of environmental factors, readers should refer to the Seismic Safety Element, the Conservation Element, or the Open Space Factors chapter of this report.

AREA ANALYSES

South Coast Shoreline, Rincon Point to El Capitan

The major open space issues along this section of the South Coast shoreline concern the use of the beaches, coastal bluffs, and rocky points, preservation of selected portions of the coastal strand, and development adjacent to the shoreline. The environmental studies and scenic quality studies confirmed the importance and fragility of this shoreline. Obviously, certain beaches can tolerate rather intense recreational use, as evidenced by the fact that 40,000 feet or 22 per cent of the oceanfront is devoted to parks and recreational facilities. However, other areas deserve protection from intensive use in order to preserve outstanding examples of marine life. Carpinteria reef and the adjacent coastal bluffs, Goleta Point, Coal Oil Point, and Naples Reef are classified as unusual or delicate habitats that should be maintained as areas for scientific study even though they may already have been disturbed by beach users. The Devereux Dunes on the southwestern edge of the UCSB campus, already part of the Natural Land and Water Reserve System of the University of California, also should be restricted to scientific study. In addition, a South Coast Intertidal Preserve recommended in the Conservation Element would extend from Ellwood to Point Conception. Recreational use in each of these sections of the South Coast shoreline should be

very light, if it is to be permitted at all.

Other environmental factors also justify maintaining as much open space as possible along the South Coast shoreline. First, the geologic and seismic problems associated with construction adjacent to the bluffs are moderate to severe (Category IV of the Geologic Problems Index), especially between Carpinteria and Summerland, at the Santa Barbara Harbor, and from Hope Ranch to the Goleta Slough. Cliff erosion, averaging six inches per year, has led to slumping and landslides in certain areas such as the Isla Vista bluffs. Furthermore, in low-lying areas - at Carpinteria, the Santa Barbara Harbor, and the Goleta Slough - the risk of tsunamis run-up poses an additional threat to development.

The Carpinteria Tar Pits and the Mispu Indian Site, as well as the Carpinteria Indian Site (a California Historical Landmark) and the Whaling Camp east of UCSB, are historical sites located on the shoreline that are enhanced by their coastal locations and surrounding open spaces. The tar pits also have geologic importance, further justifying preservation. The scenic values found along the South Coast shoreline are important not only to the recreation seeker strolling on the beach or atop the bluffs, but also to travelers driving along the coast. The entire shoreline was classified in Level 3, indicating the highest scenic value.

South Coast

For purposes of discussion, the South Coast area is divided into sub-areas corresponding to the five communities on the coast: Carpinteria, Summerland-Montecito, Santa Barbara, and Goleta to El Capitan. Only the lands within the computer analysis area boundaries are analyzed in this section. The Santa Barbara Front and the South Coast shoreline are treated separately.

Carpinteria - Most of the factors calling for open space designation are present in varying degrees in the Carpinteria area except fire hazard; and in many instances, these factors overlap and reinforce each other, especially along Carpinteria Creek, in the foothills, and west of the City along the coast. Flooding is a major problem in this area, and fairly extensive low-lying areas around Foothill Road, Casitas Pass Road, Linden Road, and in the Carpinteria Slough area are in flood plains, along with the lands adjacent to the major stream channels - Carpinteria Creek, Arroyo Paredon, and Rincon Creek. In addition, about 1,200 acres around the Carpinteria Slough are exposed to moderate-severe geologic problems (Category IV). Also three potentially active faults traverse this area - the Carpinteria, Red Mountain and Rincon Creek faults. Throughout the lowlands, orchards and irrigated ornamental crops are grown on the fertile alluvial soils found here.

In the foothills, very little of the land has over 30 per cent slope, and none of it is exposed to more than moderate geologic problems. However, this entire area is important for groundwater recharge, especially the upper reaches of Carpinteria Creek which play a particularly important role in aquifer recharge along with the area lying north-west of Rincon Creek.

Carpinteria Slough deserves special protection not only because of geologic and flood problems, but also because it is an unusual and delicate habitat that should be reserved for scientific study. The stream channels in Carpinteria also are unusual and delicate habitats.

The four parks in the Carpinteria area account for close to 130 acres of open space devoted to recreation.

Summerland-Montecito - Steep slopes, stream protection, and severe geologic problems are the major open space preservation factors in the Summerland-Montecito area. Many of the hillsides in Montecito, especially to the north, have slopes over 30 per cent, but none of these is subject to more than moderate geologic problems. However, east of Sheffield Drive in Summerland, severe geologic problems occur in the hills sometimes on slopes over 20 per cent.

Flooding mainly is a problem along Romero Creek and Toro Creek, but also occurs along the other stream channels in this area. All of these channels and most of the area not exposed to severe geologic problems are important to groundwater recharge. The potentially active Mission Ridge Fault runs east-west through the Summerland-Montecito area south of East Valley Road, and the potentially active Fernald Point Fault lies east of Sheffield Drive.

Orchards, irrigated ornamentals, and irrigated truck and field crops are the major agricultural land uses in this area. About 36 acres also have been placed in non-irrigated crop production. Some of these croplands, particularly around Toro Canyon, are subject to severe geologic hazards (Category V) or lie in flood plains so they would not be suitable for urban uses, but the remaining agricultural lands could be converted to urban development. Moderate to low potential for agricultural expansion exists in the hills, but the potential adverse impact on local water resources and altered drainage patterns should be weighed carefully prior to placing these lands in agricultural production.

Generally, the grasslands, chaparral and scrub habitats, and Southern Oak Woodland can tolerate moderate intensity recreation, but the environmental biologists do not recommend their conversion to

agriculture. The riparian woodlands in this area are unusual and delicate habitats, and consequently, any recreation use should be kept light. The stream channels and banks also are unusual and delicate habitats that warrant only light intensity use.

The Summerland-Montecito area is endowed with close to 500 acres of open space land spread among seven facilities.

Santa Barbara - Active faults, severe geologic problems, steep slopes, and flooding are the principal environmental hazards in the Santa Barbara area. Particularly around Mission Canyon, Lauro Canyon, and Sycamore Canyon and on either side of the Arroyo Burro, slopes over 20 per cent and over 30 per cent coincide with severe geologic problems (Category V) and with moderate-severe geologic problems (Category IV). Although much of the lower portions of the canyons already is developed, further development in the upper reaches is inadvisable.

Along the active Mesa Fault, an open space buffer zone is recommended to reduce the risk associated with seismic activity. North of Foothill Road, some land has rather steep slopes, but is free from severe geologic hazards. However, some of these lands are adjacent to the Lauro Canyon Reservoir. Flooding occurs along Sycamore Creek, Mission Creek, San Roque Creek, and the Arroyo Burro. Sections of these creeks also recharge the groundwater basin. Furthermore, Mission Creek, Rattlesnake Creek, and San Roque Creek were recommended for special protection by the environmental biologists. Consequently, a buffer zone along these creeks would serve several open space functions: flood control, aquifer recharge, and ecological protection.

North of Foothill Road, fire hazards are high in the Mission Canyon - Lauro Canyon area. In the rest of the Santa Barbara area, fire hazard is moderate. However, the proximity of these lands to the Santa Barbara Front and the tendency of fires originating in the Santa Barbara foothills to climb rapidly up the Front during the critical fire weather calls for special open space buffer zones between urban development and the steep chaparral-covered slopes.

Orchards are the principal agricultural land use in the foothills in back of the city. Isolated parcels used for irrigated crops are located at the west end of Cliff Drive. Agricultural expansion potential in the foothills is judged to be moderate to low because most of the prime land either has been urbanized or already is in agricultural production.

The major area recommended for special protection by the environmental biologists is the undeveloped portion of Miramonte Hill, where stands of Coast Live Oak, Coastal Sagebrush, and Mixed Chaparral are found. Preservation of this area because of its

geologic problems and steep slopes also would preserve these ecological communities from development. The nine acre patch of natural grasslands on Las Tunas Road should be preserved if possible, because these species are rare and endangered.

The greatest number of public parks and recreational facilities are found in Santa Barbara, and the combined open space of 33 sites totals 1,213 acres.

Goleta to El Capitan - In the foothills, steep slopes, geologic problems, and agriculture are the most important factors making open space preservation advisable. More often than not, lands with severe geologic problems (Category V) also have slopes over 20 per cent. Little steep lands in this area is free from moderate-severe geologic problems (Category IV). Much of the undeveloped land north of Cathedral Oaks Road and U.S. 101 is in agricultural use, primarily orchards. The streams draining this area are important for groundwater recharge, and San Jose and Dos Pueblos Creeks were recommended for special protection by the environmental biologists. In addition, development in the foothills would have to contend with the potentially active San Jose Fault and the need to protect the Dos Pueblos Creek reservoir watershed.

Geologic problems and steep slopes are far less serious south of Cathedral Oaks Road and U.S. Route 101, but flooding is a constraining factor. Decisions on development in the Santa Barbara Airport area would have to take into account not only moderate-severe geologic problems, but also relatively extensive flood hazards along Maria Ygnacia, Cieneguitas, Carneros, Atascadero, San Jose, San Pedro, and Tecolotito Creeks, as well as the airport safety hazard and noise impact. Along the active More Ranch Fault running between the Airport and UCSB and along the potentially active Goleta Fault south of Cathedral Oaks Road, development should be carefully regulated and restricted where appropriate.

In the Hope Ranch area, portions of the hillsides and hilltops along Las Palmas Drive are subject to moderate-severe (Category IV) and severe (Category V) geologic problems.

Orchards, irrigated croplands, and non-irrigated croplands are located throughout the Goleta area, frequently interspersed with residential development. The agricultural lands around Atascadero Creek and in Bell Canyon are subject to flooding, and consequently are less likely to be subject to pressure for urbanization. However, most of the other agricultural lands in the Goleta area are free from such problems and other severe environmental constraints. Opportunities for agricultural expansion exist in small isolated areas of moderate suitability in Goleta, while west of Goleta

extensive areas of moderate and low suitability can be found. In fact, most of the areas suitable for agricultural expansion west of Goleta, have moderate-severe to severe geologic problems associated with them as well.

Aquifer recharge in Goleta and the western portion of the South Coast area occurs primarily in the non-channelized portions of the stream channels and in the area overlying the groundwater basin located between Cathedral Oaks Road and a line running east-west approximately one half mile south of Hollister Avenue. Obviously, increased urbanization in the foothills, along the creeks, and in the groundwater recharge area would increase run-off and potential flooding and could be detrimental to the groundwater supplies to the extent that more impervious surface was created and drainage patterns consequently were altered.

Sand is mined at the Las Varas Canyon site, the Ellwood Ranch site, and the Doty site. The two onshore oil fields in this area of the South Coast are the Ellwood Field and La Goleta Field. Open space around these resource sites ensures room for potential expansion as well as providing protection for neighboring uses.

Of ecological interest in the Goleta area are the More Mesa grasslands, the natural grasslands west of Ellwood Pier, the stands of Coast Live Oak, Goleta Slough, and Devereux Slough and Dunes, in addition to Dos Pueblos Creek and San Jose Creek. The environmental biologists recommended restricted use in these areas to preserve the natural communities. The area around the butterfly trees near the headquarters of Dos Pueblos Ranch and on the southwest end of Coronado Drive and the turkey vulture summer roost on San Jose Creek north of U.S. Route 101 also should be kept in open space to protect the land from intensive development that would disturb the roosting behavior. The proposed Lake Los Carneros park should be planned to allow the diverse species found in the lake and surrounding area to continue to thrive. Thirteen parks and recreational facilities from Goleta to El Capitan account for over 400 acres of permanently preserved open space.

Santa Barbara Front

Watershed protection is the major open space function of the Santa Barbara Front, the mountainous northern portion of the South Coast study area lying within the National Forest boundaries. The potential flood hazards can be exacerbated by large wildland fires, thereby increasing the risk of extensive damage in the urbanized areas of the coastal plain. Almost all of the mountainous area is classified in the extreme fire hazard category, with only isolated patches in the high fire hazard category found on the

flatter grasslands. Floods could pour down 22 stream channels draining the canyons on the Santa Barbara Front.

Any land development on the Santa Barbara Front should recognize not only its important watershed function, but also moderate to severe geologic problems and slope constraints, and the needs to protect water supplies in the South Coast reservoirs. The potentially active San Jose Fault runs through the area, and over three-quarters of the land has over 30 per cent slope, although portions along San Marcos Pass Road have less than 20 per cent slope.

A number of prime ecological communities deserve protection, according to the environmental biologists. The Mixed Chaparral and Chamise Chaparral north of Santa Barbara and Goleta, the patches of Coast Live Oak, and the Southern Oak Woodland along Rincon Creek are the most notable unusual or delicate habitats. The Mixed Evergreen community near Painted Cave and the native grasslands along Camino Cielo Road at the crest of the Santa Ynez Mountains also rank as ecological communities of greatest interest in the County. Furthermore, the five creeks recommended to be preserved on the South Coast (Rattlesnake, Mission, San Roque, Dos Pueblos, and San Jose above 250 feet elevation) originate on the Santa Barbara Front.

The Santa Barbara Front presents a scenic backdrop for the South Coast which would be especially vulnerable to intrusion by clearing, grading, or construction. Even fuelbreak systems would have to be designed carefully to harmonize with the topography and vegetation. Maintenance of the Santa Barbara Front in its natural state would satisfy wilderness-type recreational needs, as well as meeting watershed protection requirements. Only during critical fire weather periods would it be necessary to restrict access for recreation.

South Coast, El Capitan to Gaviota Pass

The delicacy of this entire shoreline section of the South Coast is attested to by its inclusion in the recommended South Coast Intertidal Preserve. Because the intertidal zone is highly susceptible to disturbance, recreational use should be light, except at existing public beaches where past use already has taken its toll.

On the coastal bluffs and in the canyons, several mutually reinforcing open space preservation factors are present. Inland from El Capitan to Refugio Creek, orchards and non-irrigated crops are found in the canyons and on the hills. All of the major creeks draining toward the ocean recharge the groundwater basin. Moreover three of these, Tajiguas, Arroyo Hondo, and Refugio, were designated

by the environmental biologists for preservation as prime examples of common ecological communities found in the County. (Only nine streams were placed in this category County-wide) Intensive agricultural use around Tajiguas Creek and Arroyo Hondo could pose a threat to the aquatic habitats if adequate buffer zones were not established.

Yellow sand is being mined at three resource sites. Arroyo de Las Zorrillas, Canada de la Huenta, and Arroyo Quemado, and oil is being pumped from the Capitan field.

While the natural setting of the area is important for all three State parks and six historic sites, Gaviota Landing and Gaviota Pass are particularly enhanced by the surrounding open space and wildlife communities. Reinforcing this open space value is the fact that this portion of the Coast was given the highest scenic value rating. Because more than 3,000 acres already are in public parks, these qualities are far less threatened than elsewhere in the County.

Generally, the area is unsuited for urban development because most of the lands are subject to moderate-severe geologic problems (Category IV) that undoubtedly are compounded by the steep slopes. South of U.S. 101, geologic problems are less severe, except along the bluffs where cliff erosion occurs. Fire hazards, while not great, pose a threat, especially on brush and grass-covered slopes that are classified in the high fire hazard category. In the canyons, flooding also could threaten development.

Gaviota Pass-Nojoqui Falls

Watershed protection and recreational use are important open space functions to be served in this area. Geologic problems and steep slopes, flooding, and fire hazards effectively preclude development. Much of the land lying within the National Forest is exposed to extreme fire hazard area. Furthermore, little of the land is free from moderate-severe geologic problems and has less than 20 per cent slope. Flooding is a problem along U.S. 101 and around Alisal Lake where development also would have to contend with the active Santa Ynez Fault. Consequently, any development in this area should be closely regulated to minimize these environmental hazards.

The Nojoqui Falls area, the site of an 83 acre County Park, also is important for ecological and geological reasons. The riparian forest habitats, the forest habitats, and the chaparral communities are unusual and delicate environments in which a number of endangered species thrive. Much of the area around the falls should be reserved for scientific study, according to the environ-

mental biologists. Light recreational use could be tolerated outside these especially delicate areas. An ecological preserve also is recommended to be established for the Mixed Evergreen Community found between Gaviota Pass and Dos Pueblos Creek. The travertine deposits near the waterfall should be preserved as an area of special geologic interest.

Northeast of the National Forest, orchards and lands used for non-irrigated crops provide a pleasing visual contrast in this otherwise natural area. The only commercially produced natural resource in the area is stone from the Beehive Rock Quarry south of Lake Cachuma.

South Coast, West of Gaviota Pass

Urban development potential in this area is minimal. Watershed problems include erosion, potential flooding, and wildfires. Agricultural activity primarily is grazing, although some of the land presently is in non-irrigated crop production, and few small orchards are located in canyons near Point Concepcion. The uncertainty of long range availability of suitable quality groundwater could impose a major constraint on the expansion of agriculture onto uncultivated Class III and IV soils.

Development is constrained because few areas are free from geologic and seismic problems. Over three-quarters of the land is exposed to moderate-severe geologic problems (Category IV), and half of this area also has the additional limitation of slopes over 30 per cent. The lands adjacent to Jalama Creek and on the coastal bluff lie on 20-30 per cent slopes, and much of these areas are subject to moderate-severe geologic problems. The active Pacifico Fault crosses the area, paralleling Jalama Creek. The south branch of the active Santa Ynez Fault also traverses the area and extends out to sea.

Along Jalama Creek, the Southern Oak Woodland is ranked among the ecological communities of greatest interest in the County, while the Coastal Sage, the Chaparral, and Coastal Pine are considered prime examples of common ecological communities worthy of protection. Several areas near Jalama Road and Jalama Creek were recommended to be preserved for scientific study, while other areas could tolerate light intensity recreation. Grazing is considered detrimental to the ecological communities around Jualachichi Summit. Expansion of current agricultural activity or widening of Jalama Road would occur at the expense of the area's ecosystems.

South Vandenberg Air Force Base

The topography, geology, soils, and vegetation on the southern portion of the Base are quite similar to those of the South Coast west of Gaviota Pass. Because extensive areas are exposed to moderate-severe geologic problems, steep slopes, and extreme fire hazard, open space is the most logical use of land in this section of the Base. Furthermore, the area's relative isolation from urban development and limited agricultural potential have preserved many of its natural open space values by permitting plant and wildlife communities to flourish undisturbed. Many archaeological sites found here also have remained untouched.

The grasslands are classified as unusual and delicate habitats for certain endangered species and should be reserved for scientific study, according to the environmental biologists. The forest habitats also deserve similar treatment, and only very light recreation activities should be allowed, if any. This approach to open space use would protect the sensitive ecological communities and the archaeological sites as well as reducing fire hazard.

South Coast Shoreline, Gaviota Pass to Point Concepcion

This section of South Coast shoreline has much in common with the shoreline between El Capitan and Gaviota Pass, and, accordingly, was recommended to be placed in the proposed South Coast Intertidal Preserve. Recreational use outside Jalama Park should be kept light to protect the marine life and coastal habitats.

The problems of cliff erosion, slope stability, and landslides effectively limit development potential along the bluffs, as evidenced by the classification of this entire area in Category IV of the Geologic Problems Index. Even at Point Concepcion, where relatively buildable land is found, the scenic value, coupled with the unusual and delicate intertidal habitats on the rocky point, argues strongly for its preservation in open space. Obviously Point Concepcion Lighthouse and its surroundings, a County historic site, are enhanced by the "untouched" beauty of the shoreline.

Lake Cachuma

The overriding open space function to be served in this area is the protection of Lake Cachuma as a reservoir for South Coast water supply.

Consequently, only activities that would not damage the watershed and would not contribute to erosion and flooding, or increase fire

hazard, should be permitted. Recreation of the type conducted at the County park at the south end of the lake is a suitable activity. Fire hazard in the Lake Cachuma area is classified as extreme, except for isolated areas of moderate hazard around the lake and in Happy Canyon and Marre Canyon.

There may be flood hazards in Happy Canyon and Marre Canyon and along the creeks tributary to the lake. The Santa Ynez Valley canyon communities of oaks found in these canyons and in Santa Cruz Canyon should be protected from development and overgrazing. Consequently, open space here serves several important functions in addition to watershed protection.

To protect the Great Blue Heron rookery at the eastern end of the lake, a scientific preserve should be created, and the area should remain undisturbed. Elsewhere, light recreation use could be permitted.

Steep slopes and moderate-severe geologic problems preclude extensive land development except in Happy Canyon and Marre Canyon, where development should be restricted until the extent of flood hazard is known. Both irrigated and non-irrigated crops currently are being grown in these canyons, and on other productive lands northwest of Bradbury Dam. These lands could be converted to other uses if detailed studies demonstrated that flood hazards were not serious or that effective flood control measures were practical.

Santa Ynez Valley

Much of this study area is free of environmental constraints. However, air pollution potential might prove to be a major limitation on urban development in the Valley. Within the computer analysis area north of the Santa Ynez River, the only moderate-severe geologic problems occur west of Ballard Canyon and east of Solvang in an area south of State Route 246. In areas south of the Santa Ynez River, west of U.S. Route 101, and north of Buellton, most of the lands are subject to moderate-severe and severe geologic problems that, in many instances, are compounded by steep slopes. These areas also are exposed to extreme fire hazards. Slopes over 20 percent are found in the hills north-east of Los Olivos. Elsewhere in the study area, especially in the computer analysis subarea, steep slopes appear only in isolated locations, and rarely coincide with severe geologic problems. The only active fault, the Santa Ynez Fault, is located south of the Santa Ynez River.

Flooding occurs along the Santa Ynez River, Alamo Pintado Creek, Santa Aquada Creek, and Quinta Creek, and there are drainage problems in the area between Los Olivos and Santa Ynez.

The extent of the areas exposed to flooding north of State Route 246 and along the creeks is not known precisely; so prior to development in these areas, more detailed studies should be conducted.

Non-irrigated and irrigated croplands, orchards, and vineyards are the intensive agricultural land uses found in the Santa Ynez Valley. Raising sport and pleasure horses and grazing are the other important agricultural activities. Opportunities for agricultural expansion exist west of Santa Ynez, around Solvang, and north of Buellton. To permit the oaks to regenerate in the Santa Ynez Valley, the environmental biologists recommended that grazing be limited to appropriate areas outside the Central Oak Woodlands.

Almost all of the existing agricultural lands could be converted to urban uses because of the absence of environmental constraints. Exceptions are the lands exposed to severe flood problems along the Santa Ynez River and Alamo Pintado Creek where development could be prevented by flood plain zoning.

Sand and gravel presently are being extracted from the Santa Ynez River bed near Solvang and Buellton, at the Gardner Ranch sand and gravel site, and the Buell Flat sand and gravel site. Sand and gravel found elsewhere in the Santa Ynez riverbed may be needed to meet future needs when these sites are exhausted.

Very little land in this area is used for parks or recreation. The combined open space of the three sites in the Santa Ynez Valley is 106 acres.

West Santa Ynez Uplands

This area is almost completely in open space uses, devoted to agriculture or grazing except for open pit diatomite mining southeast of Lompoc. The upland areas perform an important watershed function for the Lompoc Plain groundwater basin and are suitable for grazing. However, the Santa Rita Hills and Santa Ynez Mountains in this area are exposed to extreme fire hazard. Only the flat lands, which generally are in agricultural production, are exposed to moderate fire hazard. Around Salsipuedes Creek, the watershed protection factor takes on added significance because of the proposed Salsipuedes reservoir.

Along stream channels in the uplands area the potential for flooding may be high. Along State Route 1 from El Jaro Creek to Rancho San Julian, along Salsipuedes Creek and Santa Rosa Creek, and in the Santa Rita Valley, additional studies should be required prior to permitting development, in order to determine more

precisely the seriousness of the flood problems. The same approach toward granting development permission also should apply to lands immediately south of the Santa Ynez River floodway.

Generally, the ecological communities in this area will tolerate moderate intensity recreation and some expansion of agriculture, except for the chaparral and scrub habitat southeast of Lompoc where light intensity recreation is recommended. Santa Rosa County Park (21 acres) is the only recreation area in the West Santa Ynez Uplands.

Urban development potential is quite limited not only for the reasons given above, but also because over half of the area is subject to moderate-severe geological problems (Category IV) occurring on slopes averaging over 20 per cent. On the flat lands, the flood hazard imposes another constraint that effectively would limit development, unless more detailed studies located buildable areas that are not flood-prone.

Lompoc

Flooding from the Santa Ynez River represents the most serious problem in the Lompoc study area. West of Lompoc around La Salle, the flood plain is over a mile across, while at the eastern end of the area, it averages 2,000 feet in width. Localized flood problems occur in the southern portion of the Lompoc area because of runoff from La Salle Canyon, Sloans Canyon, and San Miguelito Creek.

Steep slopes and geologic problems are not major constraints on development except in the Purisima Hills and in the hills south of the Santa Ynez River. These areas also are exposed to extreme fire hazard. Some moderate-severe geologic problems occur on Vandenberg Air Force Base lands north of the Santa Ynez River, but no active or potentially active faults are located in the Lompoc study area.

Agriculture is the most important open space use around Lompoc. The rich alluvial plain of the Santa Ynez River has made irrigated truck crops and flower and seed crops extremely profitable, and almost all of the valuable agricultural land has been put into production. North of Lompoc and east of Vandenberg Village, additional crops could be planted on lands with moderate to low agricultural potential. Existing agriculture lying within the flood plain is not threatened by pressure for conversion to urban development. However, they are highly productive and clearly are important to the County's agricultural economy.

In Cebada Canyon and Purisima Canyon, potential flooding problems may exist. Regardless of this factor, the value of these canyons for irrigated agriculture and groundwater recharge justifies designating the land in open space.

Other important open space factors are the mineral resources of the area. The Lompoc oil field northeast of Vandenberg Village, the diatomite mines to the south, and the sand and gravel deposits in the Santa Ynez River are located in areas where other open space functions also are being served. Conflicts would occur only if sand and gravel operations were undertaken along portions of the river west of Lompoc recommended to be reserved for scientific study.

La Purisima Mission State Historical Park stands as one of the largest and most attractive historic sites and public parks in the County. It is also designated a National Historical Landmark. The combined open space for all eleven parks and recreation facilities in the Lompoc area now is 1,276 acres.

A number of ecological communities in the Lompoc area deserve special protection. In the Purisima Hills, the Douglas Fir, Dwarf Chaparral, Yerba Santa, and Bishop Pine should be preserved as unique examples of ecological communities that rarely occur together. The Coastal Sage east of the Surf area and the grasslands north of the Santa Ynez River on Vandenberg Air Force Base also warrant very light intensity use. In certain instances, where intensive agricultural uses abut these sensitive communities (south of Lompoc and in the Purisima Hills area), the environmental biologists would prefer to see no increase in the intensity of agricultural activities.

Vandenberg Air Force Base and Environs

To protect the twelve plant communities and eight endangered species found within the Base, the environmental biologists recommended that the area be maintained in open space and be reserved for scientific study as much as possible. Such restricted use would have the added benefit of reducing the risk of wildfires, an important consideration in an area subject to extreme fire hazard.

The base also is notable for its concentration of archaeological sites, and continuation of the present policy of limited access by the military would serve to protect these sites from vandalism and destruction. Currently, archaeologists at the University of California, Santa Barbara, are working under contract with the federal government to prepare a definitive survey of the archaeological sites on the base. This information along with other environmental data will be utilized by the military in planning

for future development at Vandenberg.

The potential adverse impact from flooding of San Antonio Creek and in Casmalia and Schuman Canyons should be examined closely before the Department of Defense completes land use plans for the base. Wherever recreational use is permitted, it should be very light in order to avoid disrupting the delicate ecological resources, according to the environmental biologists.

West Coast Shoreline

The relative inaccessibility of this portion of the Santa Barbara County coast has allowed many important ecological communities to flourish undisturbed on the rocky points, on the dunes, and in the intertidal zone. To protect these unusual and delicate habitats and the endangered species found in many of them, the environmental biologists recommended several scientific study preserves and light intensity recreation use for the remaining sections of shorelines.

The coastal bluff north of Jalama beach is proposed to be reserved for scientific study only, along with Point Arguello and the surrounding bluff. In the Surf area including Ocean Beach State Park, recreation use should be very light in order to protect the unusual and delicate habitats of the saltmarsh and adjacent area and the endangered plant and animal communities. The mouth of the Santa Ynez River, the coastal bluff north to Purisima Point, and the rocky point itself should be considered for scientific study. The coastal dunes south of Purisima Point and north to Lions Head also should be protected from all but educational and scientific uses because of their extremely delicate and unstable environment. The scenic beauty of Point Sal as well as its biological and geological uniqueness, containing one of the best ophiolite sequences in California, deserves protection from all but light intensity use. Furthermore, the best example of the coastal bluff plant community in the County is found in the Point Sal area; so it too is designated for scientific study. A portion of this area already is included in the 49 acre Point Sal-Guadalupe Dunes State Park.

Guadalupe Dunes

North of Point Sal, the Guadalupe Dunes area (also known as the Oso Flaco Dunes) warrants the same degree of protection afforded

other coastal dunes in the County. From the mouth of the Santa Maria River south to Mussel Point, the shoreline is proposed by the environmental biologists for scientific study. Apart from the inland Guadalupe Sand operation, the coastal dunes are relatively undisturbed, unlike the dunes north of the Santa Maria River already badly scarred by off-road vehicles and the site of oil operations in the Guadalupe Field. In the grassland and shrub habitats of this area, very light recreation use could be tolerated without seriously damaging the natural environment.

Santa Maria

In the Santa Maria study area, as in the Lompoc area, flood potential may be an obstacle to development. Except around the Orcutt oil field, no significant geologic problems were identified, and slope is only a constraint in the hills at the south and west edges of the study area. Flooding in Orcutt Creek around Betteravia and runoff from the hills to the south could create additional problems.

The most extensive open space use in this study area is cultivated agriculture. The greatest amount of irrigated acreage in the County is found in the vicinity of Santa Maria, and most of this is devoted to truck crops and field row crops. Around the cities of Santa Maria and Guadalupe, irrigated croplands are practically contiguous with residential development, forming an agricultural greenbelt. In the Orcutt area, the airport separates the agricultural lands to the west from urban development.

The County's greatest potential for agricultural expansion exists in the Santa Maria area. On the north side and east side of the city lie areas with high potential, while on the south side the potential is moderate. Around Orcutt, orchards,irrigated ornamentals, and vineyards could expand onto lands with high potential. Drainage problems occurring throughout the area might require some corrective action, but should not limit the opportunities for agricultural expansion.

Open space for parks and recreation in the Santa Maria study area totals 720 acres. The largest County recreation area is Waller Park with over 150 acres. Most of the other eleven public parks, however, are rather small.

The Santa Maria oil field and the Orcutt oil field are the most important mineral resources in this area. The gravel found in the bed of the Santa Maria River represents a potentially valuable source of aggregate that someday may be needed for local construction. Any development along this section of the river should keep open the option of mining this resource. Potential conflicts with recreational and aesthetic objectives also should be weighed

carefully before making a decision on mining river gravel.

The ecological communities designated by the environmental biologists for preservation lie in the hills south of Betteravia and around Orcutt. The Coastal Sage, Mixed Chaparral Grasslands, and Coastal Pine constitute unusual and delicate habitats that would be disturbed by agricultural expansion or moderate intensity recreation. So, some conflict would arise between the objectives of the environmental biologists and the objectives of the farmers if all of the land suitable for agricultural expansion were put into production. However, these areas are not high on the priority list for preservation of ecological communities.

Los Alamos Valley

The valley floor here is used primarily for agricultural production, while the uplands perform important watershed functions. Non-irrigated crops, irrigated pasture and truck crops, and vineyards have been planted in the rich alluvial soil. In Harris Canyon and the Los Alamos Valley, these agricultural lands may be subject to potential flood hazards from San Antonio Creek and tributary creeks draining the uplands, but the extent of hazard is unknown. Therefore, it is advisable to preserve agriculture on the valley floor at least until flood hazard studies are made. Any other land use in this area also would have to recognize the constraints imposed by the possible westerly extension of the historically active Big Pine Fault running the length of the Los Alamos Valley; and the drainage problems and flood hazards in Los Alamos townsite.

The extreme fire hazard throughout the upland area coupled with the potential flood problems, steep slopes, and moderate-severe geologic problems (Category IV) imposes severe restrictions on land development in this area. The grasslands, however, are not extremely sensitive and could tolerate moderate intensity recreational use. The only recreation facility in this area is the 52 acre Los Alamos County Park located south of Los Alamos.

Five oil fields are located in the Los Alamos Valley area: Cat Canyon, Four Deer, Zaca, Barham Ranch, and the newly discovered Los Alamos field. If adequate environmental safeguards are observed, continued production from these fields should not interfere with watershed protection objectives or adversely affect agricultural production.

Sisquoc-Foxen Canyon

Most of this area currently is being used for agricultural production, oil production, and watershed protection. Irrigated crops and vineyards are grown between Garey and Sisquoc to the southeast. Sand and gravel is being mined at a site adjacent to the Sisquoc River west of Tepusquet Canyon. To the east is the site of the proposed Round Corral Reservoir. South of the river lies the Cat Canyon Oil Field. In this area, the grasslands and woodlands are exposed to extreme fire hazard. Almost all of the land overlies unconfined groundwater, and most of the streams contribute to aquifer recharge. Hence, the importance of the Sisquoc-Foxen Canyon area as a watershed.

Known flood problems exist along the Sisquoc River, while in Cat Canyon and Foxen Canyon the degree of flood hazard has not been determined precisely. However, development in all of these areas should be closely regulated, until detailed studies of the canyons indicate whether flooding is a problem. Any development on the slopes would have to take into account the constraints imposed by the Bradley Canyon Fault and moderate to severe geologic problems.

North Santa Ynez Uplands

The open space preservation factors in this area are watershed protection, flooding, and agriculture. All of the land here is subject to extreme fire hazard, except the flat areas along Alamo Pintado Creek and Zaca Creek. In these moderate fire hazard areas, there may be potential flood problems. Furthermore, the creeks are important for groundwater recharge. Expansion of intensive irrigated agriculture and vineyards presently found along the southern reaches of the creeks, might increase the salinity of the groundwater. However, the native plant and wildlife communities could tolerate moderately intense agriculture. Everywhere else in the North Santa Ynez Uplands, moderate-severe geologic problems, steep slopes, and limited agricultural potential impose major limitations on agricultural expansion.

Zaca Lake

The only natural lake in the County is Zaca Lake, located in the south-

west portion of the San Rafael Mountains. This area is of both geologic and ecological interest and also is an extremely vulnerable watershed. The slopes surrounding the lake lie in an area of extreme fire hazard, and access to the lake is limited to only one road. Northeast of the lake is the only wild group of Sargent Cypress found in the County. South of the lake on the Zaca-Figueroa Ridge, a stand of California Black Oak has been classified as a prime example of this community in the County. Coulter Pines, a relatively rare species in the County, are found growing on the east shore. To preserve all of these unusual and delicate natural communities, the environmental biologists have proposed that the Zaca Lake area be designated for scientific study and have recommended that only light intensity recreation be permitted. This approach to recreational use would serve the added purpose of reducing the fire hazard by limiting access to the area. Furthermore, the many archaeological sites near the lake would be less threatened.

Tepusquet Canyon

The problems found here are similar to the other mountainous areas in the County where watershed protection is the primary open space function. Twitchell Reservoir, located in the northwest corner of the Tepusquet Canyon area, makes watershed protection doubly important. As one would expect, the fire hazard is extreme. Even with only moderate intensity recreation, the risk of wildfires would be great enough to cause concern.

Flooding occurs along the Santa Maria River and in Tepusquet Canyon. Both these areas are important for groundwater recharge. In fact, the primary purpose of Twitchell Reservoir is to regulate flows in the Santa Maria River in order to maximize recharge of the groundwater basin.

The only mineral extraction activity in this area is the Santa Maria stone quarry located up Tepusquet Canyon. Vineyards are located along the Santa Maria River, and non-irrigated crops are grown in Tepusquet Canyon. Because agricultural expansion potential here is rather limited, agriculture is unlikely to have a major impact on the natural systems or water resources of the area. Other types of land development are unfeasible because of the moderate-severe geologic problems, steep slopes, and fire hazard.

Cuyama Valley

The Cuyama Valley potentially is subject to the most severe ground shaking in the County because of its proximity to the San Andreas Fault. This poses a major constraint on urban development and

dictates careful siting and detailed engineering studies in areas where development is proposed. Flooding, ecological protection, and agriculture are additional factors that call for open space designation in the Cuyama Valley. The potential flood plain of the Cuyama River covers a rather extensive area, especially south and east of New Cuyama. The grasslands and chaparral and scrub habitats in the northern hald of the Valley, particularly the Great Basin Sage in Ballinger, Quatal, and Santa Barbara Canyons, are the home of at least two endangered species - the San Joaquin Valley Kit Fox and the Blunt-nosed Leopard Lizard. For this reason, only light intensity recreation should be permitted.

Fire hazard is extreme in the foothills and high east of Ventucopa, but moderate on the valley floor.

Over 12,000 acres of irrigated and non-irrigated agriculture are found in the Cuyama Valley. Opportunities for agricultural expansion, however, should be evaluated in relation to the need to protect local water supplies which already are highly mineralized.

The fifteen acre Richardson Park is the only publicly owned recreation area in the Valley.

Two oil fields, Russell Ranch and South Cuyama, are located in the area. Because the Russell Ranch field lies in the flood plain of the Cuyama River, special attention should be paid to the environmental controls needed to prevent pollution.

Los Padres National Forest

The primary purposes to be served by the National Forest are water production, watershed protection, preservation of forage for wildlife and domestic stock, preservation of wilderness areas, preservation of wildland recreation, and protection of rare and endangered species and scenic resources. The lands tributary to the County's principal surface water supplies, Lake Cachuma, Gibraltar Reservoir, and Jameson Reservoir, warrant special protection for obvious reasons. Throughout the National Forest, fire hazard is considered extreme and potential flood problems are extensive.

The environmental biologists proposed numerous areas within the National Forest as deserving special protection because of their ecological importance. Generally, in the eastern portion of the National Forest, recreation should be light intensity, especially in the chaparral and scrub communities, and very light in eight forest preserves recommended for scientific study. Five grassland preserves recommended for scientific study also were mapped.

At the headwater of the Sisquoc River in the San Raphael Mountains, recreation in the woodland and savanna communities should be limited to protect endangered species, particularly the California Condor. South of the Santa Ynez River, another proposed scientific study preserve is located in Blue Canyon and Forbush Canyon east of Montecito Peak. Other suggested chaparral, woodland, and forest preserves are found in the San Marcos Pass area and around Dos Pueblos Canyon.

Mercury and phosphate are the only mineral resources in the National Forest that have been extracted commercially. The Cachuma District Quicksilver Mines near Cachuma Creek and the Gibraltar Quicksilver mine south of Gibraltar Reservoir are the two resource sites for mercury, while south of New Cuyama is a phosphate rock deposit. Proposals to re-open operations at these sites recently have been made.

Channel Islands

The four Channel Islands within the County have particular geologic and ecological significance. Santa Barbara Island, one of the two southern Channel Islands included in the Channel Islands National Monument, is composed of basaltic lava flows cut into steep cliffs, and provides suitable habitat for the Island Night Lizard, California Sea Lion, and Northern Elephant Seal. On the three northern Channel Islands, San Miguel, Santa Rosa, and Santa Cruz, the rocks, beaches, and volcanic flows are of geologic interest, particularly on San Miguel where the landform has been left relatively undisturbed. On all three northern islands, a great variety of rare and endangered species were identified by the environmental biologists. Because the island ecosystems are quite delicate and grazing already has disturbed many of the plant and animal communities, the environmental biologists recommended that entry to the islands should continue to be regulated and that they should be considered for scientific study only.

Open Space Design Concept

The purpose of the Open Space Design Concept is to delineate lands that have potential for open space preservation to serve one or more of the purposes prescribed in the State Planning Law - public health and safety, managed production of resources, outdoor recreation, and preservation of natural resources. Preservation of open space lands may be justified because of the dangers to life and property that would result from their development, or because of their positive assets such as agricultural capability, mineral resources, recreational opportunities, important plant and animal habitats, and scenic quality. The Open Space Design Concept, however, is not intended to be an open space plan. Definitive proposals for open space preservation will be presented in the Comprehensive Plan and the Implementation Program.

Because the Open Space Design Concept does not take account of the amount of land needed for urban expansion, there are almost certain to be cut-backs when population growth and economic development projections are made for the Comprehensive Plan. Much, if not all of the land needed to accommodate expansion will lie within or adjacent to existing urban communities.

All of the potential open space lands shown on the Design Concept maps are not of equal importance. Some should never be developed. Such a prohibition of development may be necessary on some land if public health or safety would be threatened by its development. Other lands might suitably be mainly preserved in open space but partially developed. A site with predominantly rugged terrain, but with some buildable and readily accessible area, would fall in this second category. Still other lands, particularly those with scenic value but subject to no other constraints, could be permitted to be developed subject to appropriate limitations imposed pursuant to plan review. All three types of lands are shown as open space on the Design Concept maps.

OPEN SPACE DESIGN CONCEPT PROCEDURE

Open spaces are indicated on the Design Concept maps in accordance with the following ranking of priorities:

- Open space for public health and safety.
- Open space for the managed production of resources.
- Open space for outdoor recreation
- Open space for the preservation of natural resources.

In preparing the Design Concept, open space lands were delineated in accord with their highest priority purpose. For instance, if an area subject to severe geologic hazards also is in highly productive agricultural use, it was shown as open space for public health and safety rather than as open space for the managed production of resources. Superficially, it might seem that open space land serving more than one purpose should be given a high priority for preservation. However, the fact that a particular parcel falls into more than one of the State Planning Law's open space categories does not necessarily signify that it is more important to preserve it than a parcel that falls into only one category. The critical factors are the character and severity of constraints, not the number of classifications that happen to apply to a particular site.

To make the Open Space Design Concept maps as precise as justified by the quality of available data, the four study areas (South Coast, Santa Ynez Valley, Lompoc, and Santa Maria-Orcutt) were delineated separately and at a larger scale than the County-wide map. (The potential open space patterns delineated for the study areas are not shown on the County-wide map.) Data for the computerized portions of the study areas with 5.74-acre grid cells are significantly more detailed than computer-printed County-wide data presented in the form of 92-acre grid cells. However, the original manually-prepared source maps were utilized both to obtain information for areas outside the computer analysis boundaries and, where necessary, to refine computer data shown in generalized form in the 92-acre grid cells.

Since the Open Space Design Concept is intended to serve as a classified inventory of potential open space lands, the essential first step in its preparation was to delineate existing urban development. Lands are shown on the maps as urban only if five or more contiguous acres are developed. Isolated developments, such as ranch buildings or resorts, are not indicated.

Next, all existing public parks and officially proposed parks, as well as private outdoor recreation facilities, were mapped and categorized as open space for outdoor recreation. Those definitely programmed for acquisition by the County and the cities were classified as officially proposed parks. Neighborhood parks and recreation facilities were not shown. Open spaces for recreation were mapped out of the established priority sequence because it is unlikely that their present status will change during the 15 year period covered by the Comprehensive Plan, and because it would be misleading to show them in another open space category in which a park might fall if, for example, it were located in a flood plain or a watershed (open space for public health and safety).

The third step in the procedure was to delineate lands that exhibit characteristics that could endanger human life, health, or property if developed. These lands were, of course, classified as open space for public health and safety. Most of the data were derived from maps previously published in the Seismic Safety Element and the Conservation Element.

Open space for the managed production of resources was the next category mapped. Cultivated agricultural lands were shown, but grazing lands were not unless they are subject to Williamson Act agreements and, therefore, are unlikely to change use for at least ten years. Also delineated were mineral resources sites (except for off-shore sites) and lands suitable for expansion of agriculture. If any of these resource lands also exhibit health and safety constraints, it was shown as open space for public health and safety, the higher priority category. This fact explains possible discrepancies between the Open Space Design Concept maps and the Agricultural Land Use map published in the Conservation Element report.

Open space for the preservation of natural resources was delineated last. These lands include areas of biological importance and those with high scenic values. By no means all the lands with these characteristics are shown in this classification because many areas already had been delineated in higher priority classifications.

Because of the degree of simplification intrinsic in the four open space purposes classification system, the Open Space Design Concept maps should not be used to judge development proposals without further study. It is necessary to refer to each of the environmental data maps prepared for the Seismic Safety and Conservation Elements, as well as those in this report, for particularized information. In this way, it will be possible to determine all of the various types of environmental constraints affecting a particular site - and their extent and severity.

The 18 factors causing lands to be classified as having open space potential were summarized in the Open Space Factors chapter. Clearly, these factors differ in importance, but the scale of values is not reflected in the Open Space Design Concept. The maps delineate all lands with open space potential; and within each category shown, lands may have differing value depending on their hazard potential, fragility, location, and other pertinent factors. Guidelines for differentiating among the categories and appropriate procedures to be applied in each situation will be presented in the Environmental Resources Management Element.

In preparing the Open Space Design Concept maps, more than 20 factors were given consideration. These differ somewhat from the 18 listed in the Open Space Factors chapter because some were subdivided into more than one category and others were not utilized for reasons explained below. In addition to the possibility of a particular area exhibiting characteristics in more than one of the State Planning Law categories, it also is possible that more than one factor within the same category will be present. For example it is not unusual for very steep land also to have a high Geologic Problems Index rating. Following are the lists of factors for each category of open space.

Open Space for Public Health and Safety

Slopes 30 Per Cent and Greater - No development should be permitted on these lands because of the possibilities of landslides and other geologic hazards in certain areas and endangering lands at lower elevations, the virtual inevitability of marring the scenic beauty of hillsides, and the other adverse effects of building roads and providing public services to sparsely settled areas.

Slope 20 to 30 Per Cent - Although not as hazardous as steeper slopes, these hillsides should be subjected to a minimum of development. Lands this steep often exhibit geologic problems or comprise portions of important watersheds.

Geologic Problems Index V - These lands are subject to severe geologic problems including combinations of high ratings for any or all of the following: seismic severity (ground shaking), tsunamis or seiches, liquefaction, slope stability, expansive soils, soil creep, compressible/collapsible soils, and high groundwater. Moore & Taber, authors of the Seismic Safety Element, believe that the severity of geologic problems is great enough to warrant retention of these lands in their natural state, or they may be used for very light recreation, cultivated agriculture or grazing if appropriate. (See Geologic Problems Index maps, Seismic Safety Element.)

Geologic Problems Index IV - These lands have moderate-severe problems including any or all of the same factors as present in GPI V lands, although the cumulative total of the weights assigned to the factors in the computer model is less than GPI V. Careful study of each of the problems present in GPI IV areas is essential before decisions are reached on development proposals. Moore & Taber indicate that GPI IV areas can only be developed at moderately high cost if the structures are to be safe. This fact alone may tend to discourage development, especially in areas zoned for low densities where the amount of development permitted does not justify the high site preparation cost. (See Geologic Problems Index maps, Seismic Safety Element.)

Active and Historically Active Earthquake Faults - A minimum of 50 feet on either side of an active or historically active earthquake fault should be preserved in open space. (See Seismic-Tectonic maps, Seismic Safety Element.)

Potentially Active Earthquake Faults - A minimum of 50 feet on either side of a potentially active earthquake fault should be left in open space to ensure safety. If structures are located in this potentially dangerous zone, they should not be critical public facilities such as hospitals, schools, communication centers, fire and police stations, dams, or nuclear power plants. It should be noted that the siting and design of some of these types of facilities are controlled by State and/or federal regulations. (See Seismic-Tectonic maps, Seismic Safety Element.)

Stream Channels Recharging Groundwater - These are stream channels from which significant recharge to usable underlying groundwater bodies from surface runoff takes place. The channels must remain in open space to protect the water resource. In many cases, usage other than for light recreational activities also could endanger the quality of the water supply. (See Category 1 on Protection of Local Water Resources maps, Conservation Element.)

Areas Tributary to Present Major Surface Water Supplies - These areas are important for the protection of local water resources presently utilized for agricultural, domestic, or municipal and industrial purposes. No activities that would significantly degrade the quality of surface water supplies or increase silt production should be permitted. (See Category 2 on Protection of Local Water Resources maps, Conservation Element.)

Areas Tributary to Proposed Major Surface Water Supplies - Two areas are classified in this category - the proposed Salsipuedes and Round Coral reservoirs. These watersheds should be preserved in open space for the same reasons as apply to existing surface water supplies. (See Category 3 on Protection of Local Water Resources maps, Conservation Element.)

Stream Channels with Flood Hazard - These are streams with significant drainage areas. (See Category 1 on Flood Hazards maps, Seismic Safety and Safety Element.)

Floodway Areas - The floodway is the water course and the portion of the adjacent flood plain required for passage of the waters of a 100-year flood. The floodway represents the area in which no encroachment should be permitted that would impair the ability to convey flows. (See Category 2 on Flood Hazards maps, Seismic Safety and Safety Element.)

100-Year Flood Plain with Existing Improvements or with Proposed Improvements Constructed - These lands represent the flood plain (outside of the floodway area) as it presently exists and as it will exist in the future when additional flood control improvements have been constructed. Raising of the land surface above the flood level by grading, or protection from floods by levees, could mitigate the hazard, but the adverse consequences would be significantly greater than for developing lands outside of the flood plain. (See Categories 3 and 4 on Flood Hazards maps, Seismic Safety and Safety Element.)

Areas with Unknown Flood Hazard - For many streams in Santa Barbara County, data on potential flood hazard are not available. Because most of these waterways are remote from population centers, future urbanization of their tributary areas is unlikely. However, if development were to be proposed, a detailed evaluation should be required by the County. (See Category 10 on Flood Hazard maps, Seismic Safety and Safety Element.)

Airport Hazard Areas - Areas within the approach patterns of the four airports in the County have been indicated to remain in open space because of the safety hazard.

Fire Hazard - Fire hazard is an important factor in the open space for public health and safety category, but the lands subject to this danger were not shown on the Design Concept maps. Most of the land in the County is classified as subject to extreme or high fire hazard. The degree of fire hazard may be altered by such factors as land use practices, fire prevention practices, wildland and watershed management, and fire-fighting facilities development.

Consequently, there may be areas subject to extreme or high fire hazard in which some development may be permitted provided that special siting and building practices are followed. Because of the severity and extent of the fire hazard in Santa Barbara County, all development proposals in areas shown having extreme or high fire hazard should be scrutinized to insure that, if developed, it would not adversely affect the fire hazard situation. In a number of

areas in the County the fire hazard in concert with other constraints may require that no additional development be permitted.

Open Space for the Managed Production of Resources

Existing Cultivated Agriculture - All cultivated agricultural lands, regardless of their productivity and soil series rating, are delineated in this category. Grazing lands are not included. (See Agricultural Land Use maps, Conservation Element.)

Existing Mineral Resource Areas - The majority of mineral resource sites, particularly sand and gravel operations, coincide with areas designated in the open space for public health and safety category. Most of the resource areas that are not subject to health and safety constraints are oil fields and reuse of these lands after the oil has been depleted deserves careful study. (See Mineral Resources map, Conservation Element.)

Potential Cultivated Agriculture - According to the Suitability for Expansion of Agriculture analysis model presented in the Conservation Element, much of the vacant land in the County is highly to moderately suitable for expansion of cultivated agriculture. All such lands are shown on the Design Concept maps as open space for the managed production of resources, regardless of the availability of groundwater. Most of the lands in this category lie far from urban development, and are likely to remain in open space, regardless of whether they are used for agriculture in the future. Relatively few areas of this type appear on the Design Concept maps because many of them coincide with lands subject to public health and safety constraints on development. (See Suitability for Expansion of Agriculture maps, Conservation Element.)

Non-cultivated Agriculture - Boundaries of grazing lands have not been well documented, except where they are subject to Williamson Act agreements. Because of the strong likelihood of grazing lands in agricultural preserves remaining in open space for at least ten years, they were shown on the Design Concept maps as open space for the managed production of resources. However, contrary to the established priorities system, these lands were mapped after all others, including open space for the protection of natural resources, because more often than not they have non-prime soils.

Open Space for Outdoor Recreation

Existing and Proposed Parks and Recreation Areas - As explained in the preceding section, these lands were mapped prior to open

space for public health and safety and open space for the managed production of resources. All parks and public or private recreation facilities listed in Table 4 in the Open Space Factors chapter were mapped. Neighborhood parks of less than five acres were not shown. Additional parks and recreation sites will be proposed in the Recreation Element, and many of them are likely to be located within open space areas designated for other purposes on the Design Concept maps, primarily those indicated for public health and safety and for the protection of natural resources.

Historic Sites and Archaeological Sites - Because of their small size (generally a few acres or less), most of the historic sites identified for preservation in the Conservation Element were not shown on the Open Space Design Concept maps. Only those that occupy relatively large sites (La Purisima Mission State Park, Mission Santa Ines, Gaviota Pass, Gaviota Landing, and Hurricane Deck) were delineated. (See Historic Sites maps, Conservation Element)

Archaeological sites were not shown on the Design Concept maps because their locations must be kept confidential in order to protect the sites from souvenir hunters and vandals.

Open Space for the Preservation of Natural Resources

Environmental Biology Classifications: Tolerant Only to Scientific Study, and Tolerant Only to Very Light Intensity Recreation - According to the Environmental Biologists, these areas are unusual and delicate natural habitats or they support endangered species and consequently must be preserved in their natural state. The boundaries shown on the Design Concept maps include protective buffers. Because this was one of the last categories to be mapped, many of the sites already had been included in categories mapped earlier. (See Environmental Biology: Value Classification maps and Tolerance-Intensity Classification maps, Conservation Element.)

Environmental Biology Classifications: Tolerant Only to Light Intensity Recreation, and Tolerant Only to Light and Moderate Intensity Recreation - These natural habitats support a diversity of species that should be protected, although the sites can withstand greater intensity recreational use than those classified for scientific study and very light recreation activities only. In several instances, these areas coincide with watersheds earmarked for preservation for public health and safety. However, only those areas tributary to major surface water supplies were so identified, and watersheds of the many smaller streams were not

delineated. The Environmental Biology classifications serve the dual purpose of identifying habitats that should be preserved and watersheds that should be protected in the interest of public health and safety. (See Environmental Biology: Value Classification maps and Tolerance-Intensity Classification maps, Conservation Element.)

OPEN SPACE DESIGN CONCEPT MAPS

The maps shown on pages 84 through 95 depict the open space category based on the above grouping and rating of open space factors. This section presents an analysis or discussion of the mapped open space factors for each area of the County. This area analysis should be reviewed concurrently with the Open Space Design Concept maps.

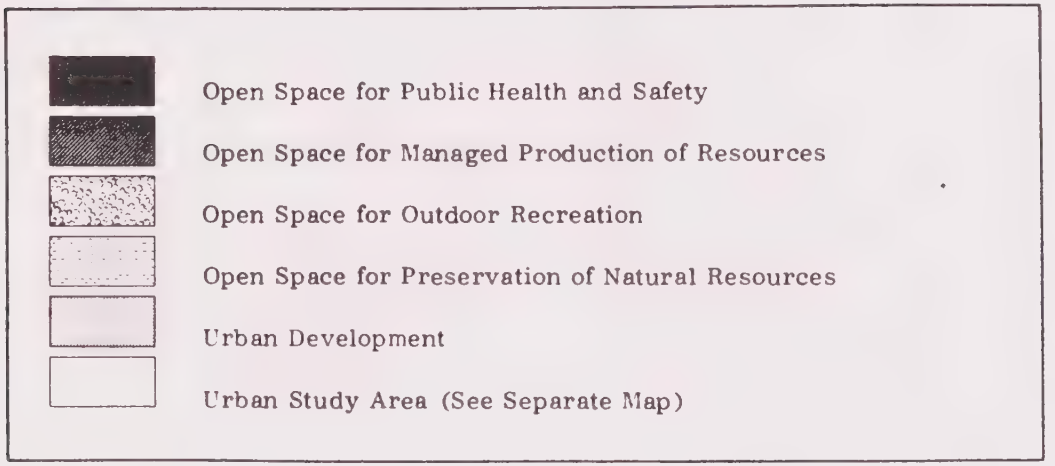
On all of the urban study area maps, there are vacant lands that have not been designated in any of the open space categories as these lands lack open space values in the categories analyzed. They are most often found close to existing urban development, and consequently may either be suitable for urban expansion, for recreation (as indicated in the Land Use Element), or for open space to shape and limit urban expansion. The need for lands in these three categories will be determined after population growth and economic development projections to 1990 have been made for the Comprehensive Plan.

County-wide Map

This map does not include the four study areas, which are mapped in greater detail. Because of the mountainous terrain of much of the County, the importance of protecting water resources, and the potential danger of floods, most of the potential open space outside of the study areas is classified as open space for the protection of public health and safety. The major exception is Vandenberg Air Force Base which contains many important biological communities and should be maintained in open space to preserve these natural resources. The coastal dunes are especially critical, and because this area is not open to the public, the extremely delicate dune plant community remains in good biological health. The northern third of Los Padres National Forest also is indicated as open space for the preservation of natural resources, although most of the area could tolerate light recreational activities. The southern two-thirds of the National Forest is designated as open space for public health and safety, primarily for the purpose of protecting water resources.

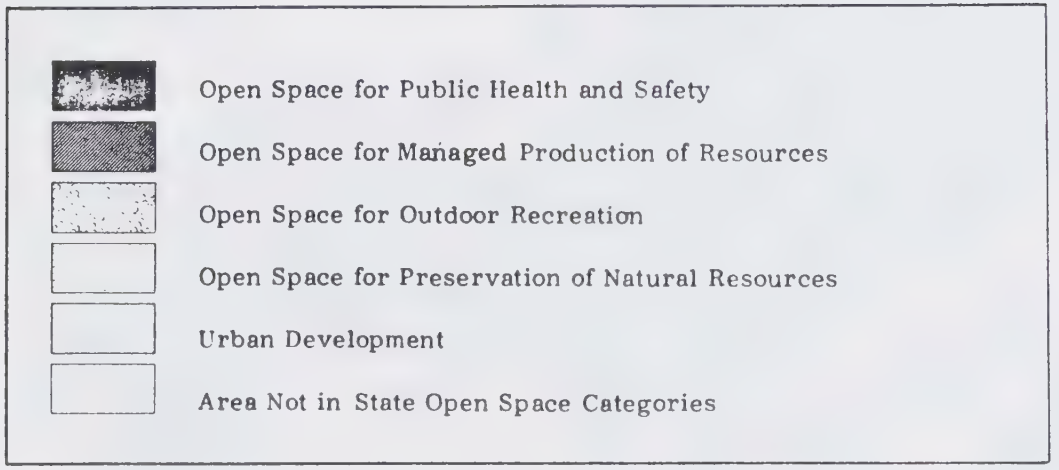
Of particular interest on the County-wide map is the fact that all lands outside of the study area boundaries fall within at least one of the four open space categories prescribed by the

Santa Barbara County
Open Space Design Concept



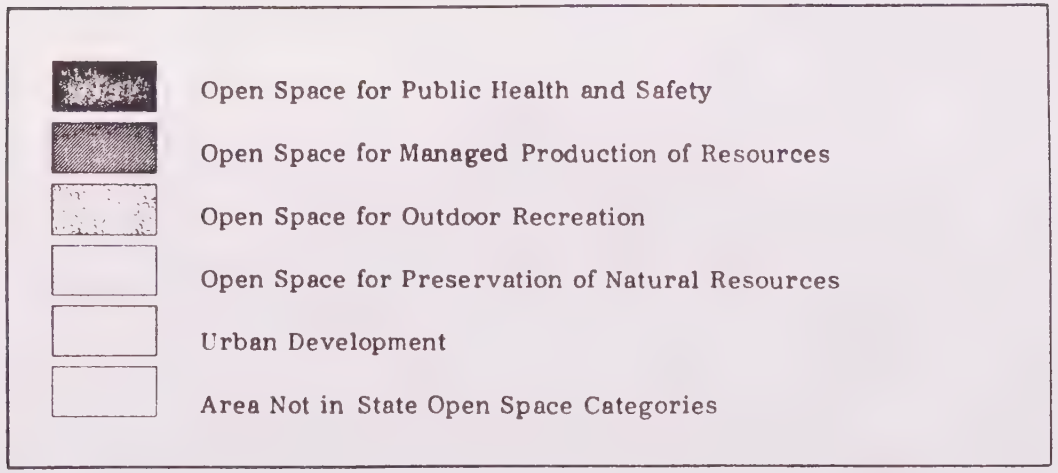

GUADALUPE
SANTA MARIA
SANTA MARIA RIVER
CUYAMA RIVER
CUYAMA
SAN LUIS OBISPO COUNTY
BETTERAVIA
Betteravia Rd
Stowell Rd
Bloosser Rd
Black
Clark Ave
U.S. Highway
POINT SAL
ORCUTT
PURISIMA POINT
VANDENBERG AIR FORCE BASE
LOS ALAMOS
SURF
Santa Maria
Centra. Ave
LOMPOC
LOS OLIVOS
BALLARD
Alamo Pintado Rd
Refugio
Veronica
State Route 154
State Route 246
BUELLTON
SOLVANG
SANTA YNEZ
POINT ARGUELLO
POINT CONCEPTION
GAVIOTA
U.S. Highway 101
MONTECITO
Coast Hwy
Coal Oil Point Rd
Foothill Rd
State St
East Valley Rd
GOLETA
Hollister Ave
CARPINTERIA
Cliff Dr
SUMMERLAND
Foothill Rd
SANTA BARBARA
N

South Coast Study Area ~East
Open Space Design Concept



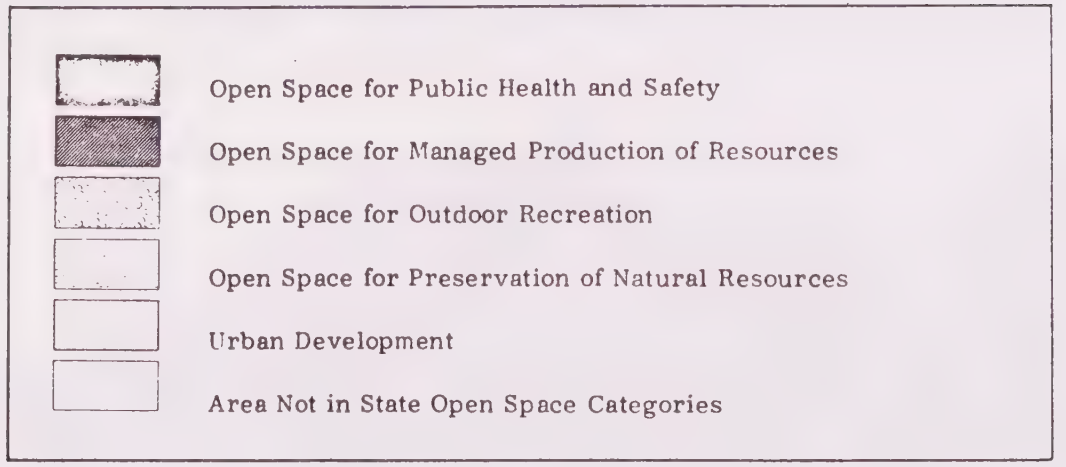
STUDY AREA BOUNDARY
VENTURA COUNTY
SANTA BARBARA COUNTY
SUMMERLAND
SANTA BARBARA
N

South Coast Study Area ~West
Open Space Design Concept



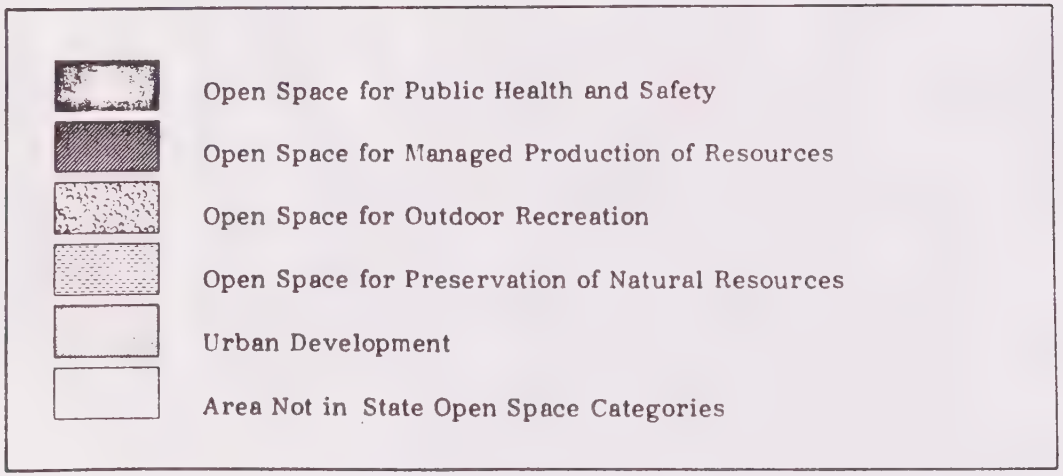

AIRPORT
GAVIOTA
N

Santa Ynez Valley Study Area
Open Space Design Concept



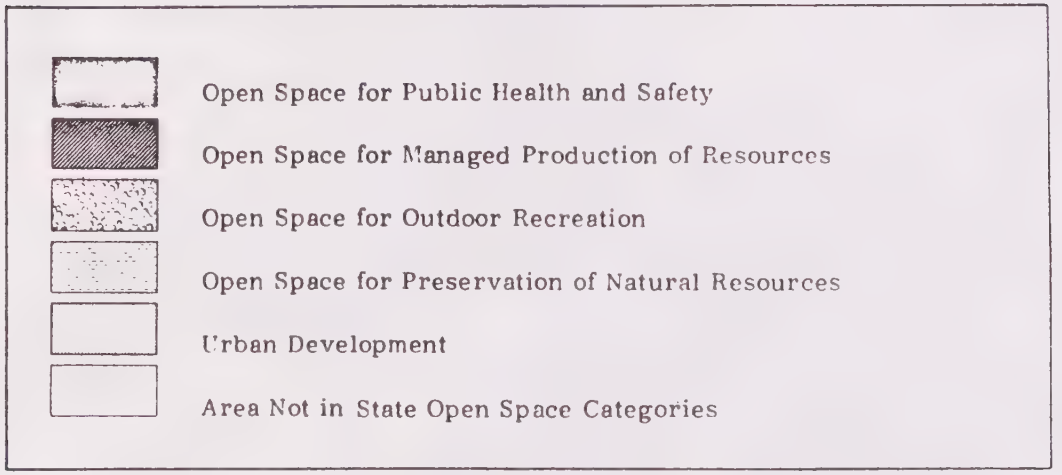

STUDY AREA BOUNDARY
State Route
Airport
N
OPEN SPACE DESIGN CONCEPT

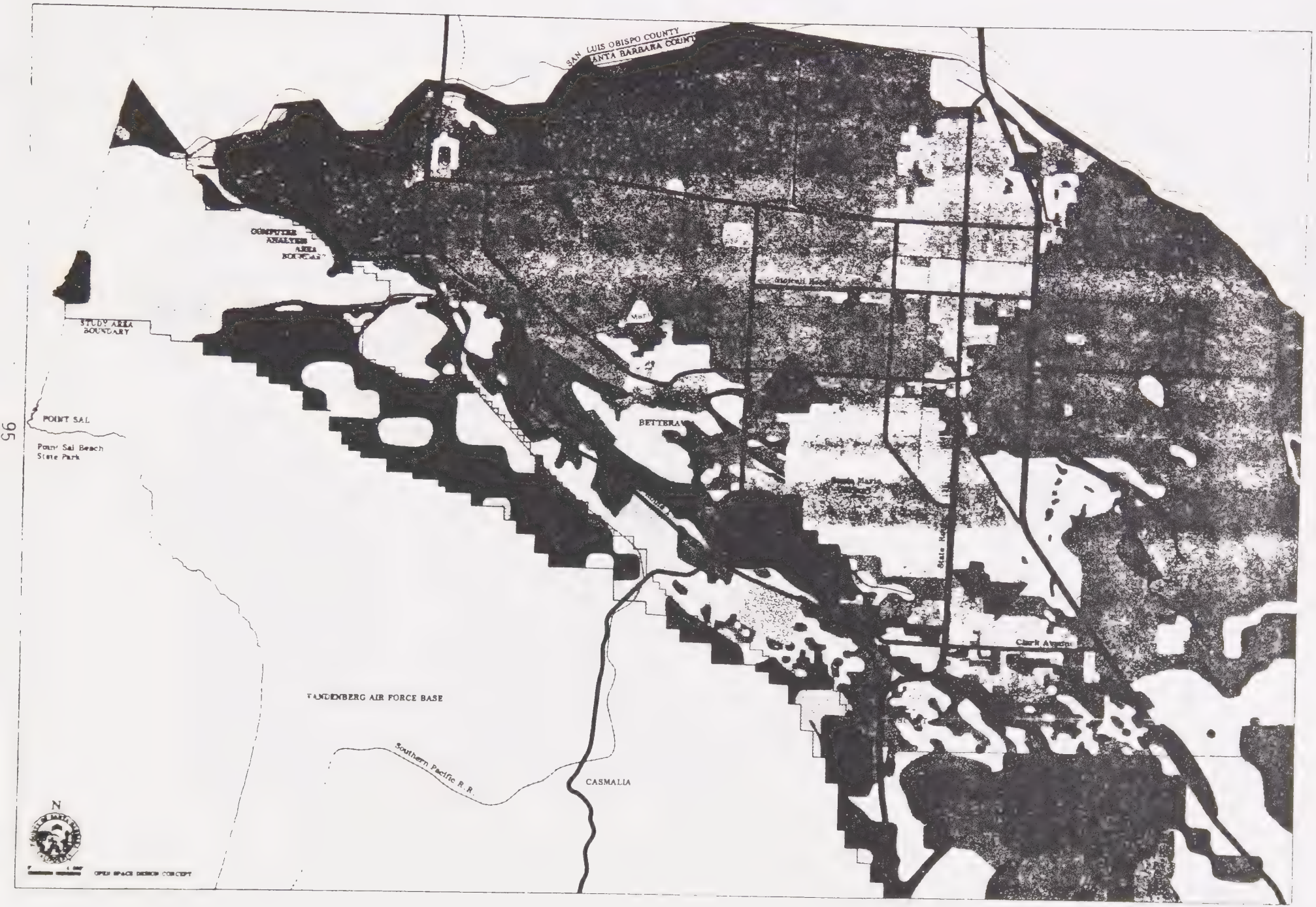
Lompoc Study Area
Open Space Design Concept



Vandenberg Village
VANDENBERG
SURF
STUDY AREA BOUNDARY
N
OPEN SPACE DESIGN CONCEPT

Santa Maria-Orcutt Study Area
Open Space Design Concept




SAN LUIS OBISPO COUNTY
SANTA BARBARA COUNTY
COMPUTER ANALYSIS AREA BOUNDARY
STUDY AREA BOUNDARY
POINT SAL
Point Sal Beach State Park
BETTERAVIA
Santa Maria
State Hwy 1
Clark Avenue
VANDENBERG AIR FORCE BASE
Southern Pacific R.R.
CASMALIA
N
OPEN SPACE DESIGN CONCEPT

State Planning Law. Although each area shows as in only one category on the map, review of the data maps presented in the Seismic Safety and Conservation Elements, as well as in this report, reveals that many areas actually are subject to overlapping environmental constraints which place them in several categories.

For example, following the procedure described in the preceding section, all lands on the County-wide map were classified in one open space category or another before the high scenic value and non-cultivated agricultural preserve classifications were utilized.

While some expansion may be appropriate around small outlying urban centers, the Design Concept map clearly indicates that, from the standpoint of environmental constraints, the land outside of the study areas is more suitable for open space than for urbanization. The issue of growth of the outlying centers will be examined when the Comprehensive Plan is prepared. When the County-wide map is viewed in conjunction with the four area study maps, all of which depict some areas that do not fall within any of the open space categories, it becomes clear that future urbanization should occur mainly close to the present major population concentrations.

South Coast Area

The South Coast is the most highly urbanized portion of the County, and has the smallest proportion of potential open space. By far, most of the vacant lands are classified as open space for public health and safety, including nearly all of the Santa Barbara Front. This mountainous area is characterized by steep slopes and geologic problems which preclude development unless public safety is to be ignored. Extreme fire hazard, although not mapped, also prevails throughout the Front. Because wildland fires in this area can destroy watershed lands, cause erosion and siltation, and intensify flood hazards, development here would pose equal or greater threats to residents of the more heavily populated coastal plain below than to residents of the mountains.

While much of the coastal plain is classified as open space for public health and safety primarily because of geologic problems, a considerable amount of this land also is in cultivated agricultural use. The South Coast General Plan Advisory Committees have recommended preservation of as much of this agricultural open space as possible, including the smaller orchards adjacent to or within existing urban areas. Their presence is an important element of the environmental character of the South Coast communities. Although much has been said about the physical conflicts between agriculture and urban development (spraying, plant disease transmission, and

pilferage), it should be remembered that for many decades most of southern California's urban centers existed harmoniously in immediate proximity to orchards and citrus groves.

Also of great importance on the South Coast is preservation of the shoreline and coastal bluffs. Most of the undeveloped coastal lands are shown in one of the four open space categories. The California Coastal Zone Conservation Commission's program may preserve much of the land within its jurisdiction, but the County is free to impose tighter restrictions if necessary, and has sole responsibility for protecting the adjacent unincorporated areas. Recognizing that it may not be possible to save all of the remaining undeveloped lands along the urbanized portion of the coastline, the question of which are most important to preserve is explored in the Environmental Resources Management Element and Land Use Element where coastal and inland sites are equally suitable for urban development, the County and the cities would be wise to preserve the oceanfront lands in open space, wherever possible, because of their unique scenic, recreational, and ecological values.

Santa Ynez Valley

On the flat valley floor east of Alamo Pintado Road, existing cultivated agriculture and the lack of constraints based on health and safety considerations caused most of the land to be classified as open space for the managed production of resources. A significant amount of land, mainly adjoining existing agriculture, is suitable for agricultural expansion and consequently falls in the same category. Along the Santa Ynez River and in the steep terrain in the south portion of the urban study area, flood hazard and geologic problems caused open space for public health and safety to predominate strongly. The hill lands in the north of the study area are about equally divided between open space for public health and safety and open space for the preservation of natural resources, while the latter category predominates west of U.S. 101.

A significant amount of land recommended for preservation in agricultural use by the Advisory Committee falls within the open space for public health and safety and the open space for the preservation of natural resources categories. This result should not be interpreted to mean that these lands are not either in agricultural use or suitable for agricultural expansion. Where steep slopes and/or geologic, flood, or other potential hazards are present, the first category (public health and safety) takes precedence. Much of the land classified as open space for the preservation of natural resources is grazing land in agricultural preserves, but since this class was mapped last, the natural resources category is the one that appears on the map.

Lompoc Area

The Santa Ynez River flood plain creates a great swath of open space for public health and safety running east-west through the center of this planning area, although much of the land shown in this category south of the Federal Correctional Institution is in cultivated agricultural use and is under Williamson Act agreements. The hill lands in the northeastern and southern portions of the planning area also appear in the public health and safety category. In the open space for the managed production of resources category, existing agricultural lands are shown in the area surrounding the City of Lompoc on the north, east, and west. Potential for agricultural expansion places a large area surrounding La Purisima Mission in this open space category. As in the Santa Ynez Valley, much of the land indicated as open space for public health and safety actually is used for grazing livestock.

The Open Space Design Concept conforms with pertinent recommendations of the General Plan Advisory Committee calling for the preservation of cultivated agricultural lands and grazing lands, as well as the mountainous watershed lands which provide recreation opportunities and provide a scenic backdrop for the urban area.

Santa Maria-Orcutt Area

Conforming with the agricultural analyses presented in the Conservation Element, the largest portion of land with open space potential in the Santa Maria Valley is classified in the managed production of resources category. Most of this land is cultivated agriculture to the east and west of the City of Santa Maria. South of Santa Maria and south and southwest of Orcutt, land in this category has high potential for agricultural expansion. The recent increase in vineyard plantings illustrates the possibilities for expansion of agriculture in the Valley. Predominance of this category is in keeping with the Advisory Committee's goal of promoting agricultural expansion. Likewise, the Committee strongly advocated protection of high value irrigable crop lands and prevention of intrusion of urban development.

The large acreage devoted to oil fields in the Valley also is included in the managed production of natural resources category and occurs primarily at the south edge of the planning area. Additional oil fields are located in the northeast and northwest. Future reuse of these lands after oil resources are exhausted will be an important issue, particularly because a significant portion of these lands is not suitable for the expansion of cultivated agriculture. Urban expansion onto depleted oil fields that lie close to existing communities would be a possibility. This policy would conform with the Advisory Committee's goal of discouraging leapfrog subdivisions and restricting expansion to presently serviced districts.

Most of the western portion of the study area is shown as open space for the preseservation of natural resources. This area contains the biologically important sand dunes and shoreline areas. Smaller parts of the coastal area, the hill lands in the south and southwestern portions of the study area, and the Santa Maria River flood plain are designated as open space for public health and safety.

Appendices

APPENDIX A

SCENIC VALUES COUNTY-WIDE, MODEL STEPS FOR COMPUTER PROGRAMMING

For an analysis of scenic values County-wide, three environmental factors were chosen because of their visual implications: protection of local water resources, environmental biology by type, and dominant slope. The locations of lakes, streams, and rivers, identified by the protection of local water resources variable, often are the dominant features of a particular natural setting and provide important focal points. The surfaces and edges of the County's water resources also provide visual diversity in detail, texture, and scale, thereby enhancing scenic values. Ecological communities mapped by the environmental biologists suggest the general height, mass, color, texture, and density of vegetative cover in a particular grid cell. Each ecological community's sensitivity to replacement is another factor implied by this mapping that should be taken into account in determining which scenic values should be preserved. Dominant slope identifies enclosures and the existence of a visual backdrop. The distance of this visual edge from the vantage point indicates the scale of the viewed area.

Model Steps

1. Assign weights to the sub-classifications of data variables according to the scenic values model matrix shown below.

2. Sum the weights to compute the Scenic Values Index.

3. Map: Scenic Values by dividing the index into six ranges.

Level	Scenic Value Index
Low	0 - 6
Low	7 - 10
Moderate	11 - 13
Moderate	14 - 16
High	17 - 21
High	22 - 26

SCENIC VALUES COUNTY-WIDE, MODEL MATRIX FOR COMPUTER PROGRAMMING

SCALE OF IMPORTANCE FOR VARIABLE SUB-CLASSIFICATION AND CUT-OFF POINTS

DATA VARIABLE	10	9	8	7	6	5	4	3	2	1	0
PROTECTION OF LOCAL WATER RESOURCES	Stream 1			Surface Used 2							Proposed Surface Water, Ground Water, and Tributaries Usable 3, 4, 5-8
ENVIRONMENTAL BIOLOGY BY TYPE	Coast Rocks, Dune, Salt Marsh, Riparian 1,2,3,8	Swamp/ Aquatic 9	Wood/ Savanna Forest 6,7		Grazing, Exotic 5, 10		Chaparral/ Scrub 4	Orchard/ Vineyard 13	Non-irrigated Crop 11	Irrigation Row Crop 12	
DOMINANT SLOPE			30 %		20-30%		11-20%		0-10%		

APPENDIX B

SCENIC VALUES IN URBAN STUDY AREAS, MODEL STEPS FOR COMPUTER PROGRAMMING

In the urban study area model, two additional environmental factors were added to the County-wide scenic values model in order to refine the analysis. Five data variables were included in the urban study areas model of scenic values: protection of local water resources, environmental biology by type, land use, mean slope, and elevation. Topography, vegetation, and water resources are important determinants of scenic values in primarily undeveloped areas. Land use serves as an index of the visual integrity of the landscape in developed areas by indicating the type of development and potential scenic character. Elevation provides a measure of the potential viewing distance of the observer, with higher elevations providing greater panoramic opportunities.

Model Steps

1. Assign weights to the sub-classifications of data variables according to the scenic values model matrix shown below.

2. Sum the weights to compute the Scenic Values Index.

3. Map: Scenic Values by dividing the index into six ranges.

Level	Scenic Value Index
Low	0 - 9
Low	10 - 13
Moderate	14 - 17
Moderate	18 - 22
High	23 - 26
High	27 - 42

SCENIC VALUES IN URBAN STUDY AREAS, MODEL MATRIX FOR COMPUTER PROGRAMMING

SCALE OF IMPORTANCE FOR VARIABLE SUB-CLASSIFICATION AND CUT-OFF POINTS

DATA VARIABLE	10	9	8	7	6	5	4	3	2	1	0
PROTECTION OF LOCAL WATER RESOURCES	Stream 1			Surface Used 2							Proposed Surface Water, Ground Water, and Tributaries Usable 3, 4, 5, 6
ENVIRONMENTAL BIOLOGY BY TYPE	Coastal 10 - 34	Swamp Stream 80, 92	Riparian Aquatic 70,90,91 95,96,97	Wood/ Savanna Exotic 60-63,75	Forest 65-74	Fossil Deposits 98,99		Grass 50-52		Chaparral Scrub 40-49	
LAND USE		Recreation Facility 14,15		Vineyard, Vacant Urban 6, 7	Non-irrigated Crops 1	Truck, Row Crops 3	Single Family Residential 8			Ornamental Crop 4	Grain, Orchard, Multi-Family, Institutional, Commercial, Urban 2,5,9-13, 16-22
MEAN SLOPE			Over 30%		21-30%		11-20%		0-10%		
ELEVATION			6000' to 8000'	4000' to 6000'	3000' to 4000'	2000' to 3000'	1000' to 2000'	500' to 1000'	0' to 500'		

APPENDIX C

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